2019

AGWMR

From: Smith, Cory, EMNRD
To: "Drewry, Scott"; Griswold, Jim, EMNRD; Billings, Bradford, EMNRD; l1thomas@blm.gov
Cc: Kyle Summers; Marc Gentry; Liz Scaggs; Miller, Greg
Subject: RE: (RP No. 3R-446) Lateral K-51 - AGWMR
Date: Monday, June 8, 2020 11:31:00 AM

Mr. Drewry,

OCD is still currently in the process of transferring the 3R-446 case to AP-130. In the meant time OCD has reviewed the 2018? (I assume 2019) AGWMR.

OCD has accepted the report and have approved Enterprise request with the following conditions of approval:

- Enterprise may reduce sampling events in MW-3 and MW-11 through MW-13 to annual events please still collect field data as previous approved
- Enterprise does not need OCD approval to install additional delineation wells please install as many wells as needed to fully delineate the plum.

Please keep a copy of this electronic communication for your files, as no paper copy of the approval will be delivered. The signed report will be saved in AP-130 electronic file on the OCD website.

Thanks,

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Drewry, Scott <sdrewry@eprod.com>
Sent: Monday, May 4, 2020 3:00 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; l1thomas@blm.gov
Cc: Kyle Summers <ksummers@ensolum.com>; Marc Gentry <mgentry@ensolum.com>; Liz Scaggs <lscaggs@ensolum.com>; Miller, Greg <GEMiller@eprod.com>
Subject: [EXT] (RP No. 3R-446) Lateral K-51 - AGWMR
Importance: High

Greetings,

The attached document (2018 Annual Groundwater Monitoring Report, dated September 19th) for the Lateral K-51 Pipeline Release is being distributed on behalf of Enterprise Products Operating LLC. Please accept the PDF attachment as NMOCD's electronic copy of submittal.

Enterprise appreciates the LDEQ's continued assistance and guidance in moving this Site towards closure. Should you have any questions, comments or concerns, please feel free to contact Greg Miller at 713-381-8780, or at GEMiller@eProd.com.

Many thanks,

Scott Drewry, P.G.
Environmental Remediation
713.381.5696
sdrewry@eprod.com

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS GP, LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

April 27, 2020

Return Receipt Requested**
Submitted via email: Cory.Smith@state.nm.us

Reviewed by CS 6/8/2020

Mr. Cory Smith
New Mexico Energy, Minerals & Natural Resources
Department – Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: ***2018 Annual Groundwater Monitoring Report*** (Ensolum, September 19, 2019)
Enterprise Field Services, LLC
Lateral K-51 Pipeline Release (4/13/2010)
Rio Arriba Co., NM [S34 and 35, T26N R6W (36.4465° N, 107.4461° W)]
OCD RP: 3R-446 (Formerly 3R-206); Stage 1 AP-130

Dear Mr. Smith:

Enterprise Products Operating LLC (Enterprise), on behalf of Enterprise Field Services, LLC, is submitting this electronic copy of the above-referenced report prepared by Ensolum, LLC (Ensolum) dated September 19, 2019. The report is associated with the Enterprise Lateral K-51 pipeline release of natural gas and associated pipeline liquids that was discovered on April 13, 2010, near Tapacito Creek in Rio Arriba County, New Mexico (the "Site"). The activities detailed in the attached report include two semi-annual groundwater monitoring and sampling (SA-GWM&S) events that occurred between January 1, 2018 and December 31, 2018 (the "reporting period").

Data presented in the attached report indicate that dissolved-phase hydrocarbon (DPH), or constituent of concern (COC), concentrations remain at the Site in excess of the applicable Water Quality Control Commission (WQCC) Groundwater Quality Standards (GQSs) in only one monitor well, MW-19 (benzene is the only exceedance). Phase-separated hydrocarbon (PSH) has never been observed at the site, with the exception of two events in 2012 (in MW-19) that were not visually confirmed.

Based on the data and results presented in the attached report, COC concentrations are generally declining across the Site. However, the plume is not currently delineated to the southwest of MW-19 due to silting of MW-18 (inaccessible since 2012). Additionally, in comparing current COC data to historical data, COCs in the original release area (i.e. MW-1 through MW-4, and outer/perimeter wells MW-11 through MW-14) have apparently migrated to the north (i.e. to down-gradient MW-19), or are from another source. COCs in the original release area have been below laboratory detection and/or the applicable WQCC GQSs since November 2016, or earlier (for a minimum of 2 consecutive years). As such, **Enterprise requests permission to plug and abandon (or suspend analytical testing of) MW-3 and the outer/perimeter monitor wells MW-11 through MW-13, and to re-install (or rehabilitate) delineation well MW-18 to the southwest of MW-19** (delineating the current "exceedance area" by MW-14, MW-16, MW-18 and MW-20). This reduction in wells should leave adequate delineation of both the original release area (MW-1) and the current exceedance area (MW-19). Enterprise also intends to: 1) continue conducting SA-GWM&S events, 2) install a shallow recovery well up-gradient of monitor well MW-19 (to facilitate enhanced total fluids recovery in the immediate vicinity of the highest observed groundwater COC concentrations), and 3) further evaluate the dynamics of the DPH plume after concurrence that the *Stage 1 Abatement Plan* (Ensolum, revised May 22, 2019) is deemed administratively complete.

P.O. BOX 4324
HOUSTON, TEXAS 77210-4324
713.381.6500

1100 LOUISIANA STREET
HOUSTON, TEXAS 77002-5227
www.epplp.com

Enterprise appreciates the Oil Conservation Division's (OCD's) continued assistance and guidance in bringing closure to this Site. Should you have any questions, comments or concerns, or require additional information, please feel free to contact me any time at 713-381-8780, or at gemiller@eprod.com.

Sincerely,

Gregory E. Miller, P.G.
Supervisor, Environmental

Rodney M. Sartor, REM
Sr. Director, Environmental

cc: BLM, Farmington, NM – Ms. Whitney Thomas <6251 College Blvd., Suite A, Farmington, NM 87402>
Landowner – Mr. Russell Luna < PO Box 753, Bloomfield, NM 87413-0753>
ec: NMOCD, Santa Fe, NM – Mr. Jim Griswold <Jim.Griswold@state.nm.us>
NMOCD, Santa Fe, NM – Mr. Brad Billings <Bradford.Billings@state.nm.us>
Ensolum, Houston, TX – Mr. Marc E. Gentry <MGentry@ensolum.com>

*** Please note that due to the COVID-19 pandemic and the current "Stay Home, Work Safe" order issued for Harris County Texas, all hard copies (and associated electronic copies on CD or USB drives) of the Subject document(s) will be mailed to each recipient once Enterprise staff are allowed to return to work. In the interim, an electronic copy will be emailed as the official submittal.*

LATERAL K-51 PIPELINE RELEASE (2010)
2018 ANNUAL GROUNDWATER MONITORING REPORT

Property:

Lateral K-51 Pipeline Release (2010)
S34 and 35, T26N R6W
Rio Arriba County, New Mexico

New Mexico EMNRD OCD RP No. 3R-446 (Formerly 3R-206) AP-130

September 19, 2019
Ensolum Project No. 05A1226010

Prepared for:

Enterprise Field Services, LLC
P.O. Box 4324
Houston, Texas 77210-4324
Attn: Mr. Gregory E. Miller, P.G.

Prepared by:

Ranee Deechilly
Staff Scientist

Kyle Summers
Principal

LATERAL K-51 PIPELINE RELEASE (2010)
2018 ANNUAL GROUNDWATER MONITORING REPORT
EXECUTIVE SUMMARY

The Lateral K-51 Pipeline Release (2010) site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in Sections 34 and 35, Township 26 North, Range 6 West, in Rio Arriba County, New Mexico.

Following the release of approximately ten (10) barrels of natural gas condensate on April 13, 2010, Enterprise initiated excavation activities to identify and remediate potential hydrocarbon impact. Souder, Miller & Associates (SMA) collected confirmation soil samples and one (1) groundwater sample from the resulting excavation. The excavation was subsequently backfilled with imported fill. During June 2010, LT Environmental, Inc. (LTE) advanced eight (8) soil borings (BH-1 through BH-8) in the vicinity of the release and four of the soil borings were completed as groundwater monitoring wells (MW-1 through MW-4). Samples collected from the soil borings exhibited concentrations of constituents of concern (COCs) above the applicable New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) Closure Criteria for soils, and above the New Mexico Water Quality Control Commission (WQCC) Groundwater Quality Standards *(*GQSs*)* for groundwater.

During April 2011 and March 2012, Southwest Geoscience (SWG), installed nine (9) additional groundwater monitoring wells (MW-11 through MW-14, and MW-16 through MW-20), and 15 injection points. During May 2011, in-situ chemical oxidation (ISCO) was performed in the pipeline release source area.

Groundwater sampling events were conducted by Apex TITAN, Inc. (Apex) during May and November 2018. The objectives of the 2018 groundwater monitoring events were to further evaluate the concentrations of COCs in groundwater over time, and to monitor the generally declining COC concentrations at the Site.

Findings and recommendations based on these activities are as follows:

- The groundwater flow direction at the Site is generally towards the west-northwest, with an approximate average gradient of 0.010 feet per foot (ft/ft) across the Site.

- The groundwater samples collected from monitoring well MW-19 (during the May and November 2018 sampling events) exhibited benzene concentrations of 250 micrograms per liter (µg/L) and 230 µg/L, which exceed the WQCC GQS of 10 µg/L. Groundwater samples from all other monitor wells during these events indicated non-detectable or concentrations below the WQCC GQSs for all COCs.

- With the exception of monitoring well MW-19, results from the sampling events at the Site demonstrate generally declining COC concentrations in groundwater.

Ensolum offers the following recommendations:

- Report the groundwater monitoring results to the New Mexico EMNRD OCD;

- Continue semi-annual groundwater monitoring at the Site to monitor natural attenuation of COCs in groundwater;

- Once approved by the New Mexico EMNRD OCD, implement additional Site-specific aquifer testing, install a shallow recovery well upgradient of monitoring well MW-19, and repair or replace monitoring well MW-18, as described in the Stage 1 Abatement Plan; and,

- After the Stage 1 Abatement Plan has been fully implemented, prepare a Stage 2 Abatement Plan.

TABLE OF CONTENTS

LIST OF APPENDICES

LATERAL K-51 PIPELINE RELEASE (2010)
2018 ANNUAL GROUNDWATER MONITORING REPORT

New Mexico EMNRD OCD RP No. 3R-446 (Formerly 3R-206) AP-130

Ensolum Project No. 05A1226010

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Lateral K-51 Pipeline Release (2010) (Site)
Location:	36.4465° North, 107.4461° West Sections 34 and 35, Township 26 North, Range 6 West Rio Arriba County, New Mexico
Property:	United States Bureau of Land Management (BLM) and Private Land (Russell and Connie Luna)
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On April 13, 2010, an estimated ten (10) barrels of natural gas condensate was released from the Enterprise natural gas gathering pipeline at the Site. Subsequent to the completion of excavation activities and off-site disposal of hydrocarbon affected soils, confirmation soil samples were collected from the excavation by Souder, Miller and Associates (SMA). In addition, one (1) groundwater sample was collected from the excavation. The excavation was then backfilled with unaffected soils. During June 2010, eight (8) soil borings (BH-1 through BH-8) were advanced on-Site by LT Environmental (LTE). Subsequent to advancement, four (4) of the soil borings were completed as groundwater monitoring wells (MW-1 through MW-4) (*Subsurface Investigation Report, dated August 9, 2010 – LTE*). Analytical results from the soil and groundwater sampling activities indicated constituent of concern (COC) concentrations were present in soil (BH-1, immediately adjacent to the release and near the groundwater interface) above the applicable New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) Closure Criteria, and in groundwater (monitoring wells MW-1 through MW-4) above the New Mexico Water Quality Control Commission (WQCC) Groundwater Quality Standards *(*GQSs*).*

During April 2011, nine (9) soil borings/monitoring wells (SB-9, SB-10, MW-11 through MW-14, SB-15, MW-16, and MW-17) were advanced by Southwest Geoscience (SWG) in and around the K-51 release area to further evaluate the extent of dissolved phase COCs in groundwater. Additionally, 15 injection points were installed to allow in-situ chemical oxidation (ISCO) of the COCs. ISCO activities were performed during May 2011 (*Supplemental Site Investigation and Corrective Action Report, dated October 5, 2011 - SWG*).

Based on the distribution of COCs in groundwater, it appears that a former drip valve, tank, or pit may have been an additional historic source of petroleum hydrocarbon impact to groundwater (New Mexico EMNRD OCD reference 3R-206, *El Paso Natural Gas, Final Pit Closure*) in the vicinity of monitoring well MW-14. During March 2012, three (3) additional soil borings/monitoring wells (MW-18, MW-19 and MW-20) were advanced near and downgradient of the historic release area to further evaluate the extent of COCs in groundwater (*Supplemental Site Investigation & Corrective Action Work Plan, dated April 23, 2012 – SWG*). Soil boring/monitoring well MW-18 was advanced to the west of the presumed location of the historic release, and soil borings/monitoring wells MW-19 and MW-20 were advanced to the north and northwest of the presumed location of the historic release.

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. In order to address activities related to exempt oil and gas releases, the New Mexico EMNRD OCD references New Mexico Administrative Code (NMAC) 19.15.29 *Releases,* which establishes investigation and abatement action requirements for sites subject to reporting and/or corrective action. Additionally, the New Mexico EMNRD OCD utilizes the New Mexico WQCC GQS (NMAC 20.6.2 *Groundwater and Surface Water Protection*) to evaluate groundwater conditions.[1]

The Site location is depicted on **Figure 1** of **Appendix A** which was reproduced from a portion of a United States Geological Survey (USGS) 7.5-minute series topographic map. A **Site Vicinity Map**, created from an aerial photograph, is provided as **Figure 2**, and a **Site Map**, which indicates the approximate locations of the monitoring wells and previous soil boring locations in relation to pertinent structures and general Site boundaries, is included as **Figure 3** of **Appendix A**.

1.2 Project Objective

The objective of the groundwater monitoring events was to further evaluate the concentrations of COCs in groundwater over time, and to monitor the generally declining COC concentrations at the Site.

2.0 GROUNDWATER MONITORING - MAY AND NOVEMBER 2018

2.1 Groundwater Sampling Program

Semi-annual groundwater sampling events were conducted during May and November 2018 by Apex TITAN, Inc. (Apex).

Information, data, and conclusions provided in the following sections and attached figures are based on information provided by Apex to Enterprise, and eyewitness accounts.

Based on information provided by Enterprise, Apex's groundwater sampling program consisted of the following:

Prior to sample collection, Apex gauged the depth to fluids in each monitoring well using an interface probe capable of detecting non-aqueous phase liquids (NAPL).

Monitoring well MW-18 is silted in, blocked by roots, or collapsed, and was not sampled during the 2018 events.

Each monitoring well was sampled utilizing micro-purge low-flow sampling techniques. Subsequent to the completion of the micro-purge process, one (1) groundwater sample was collected from each monitoring well.

Low-flow refers to the velocity with which groundwater enters the pump intake and that is imparted to the formation pore water in the immediate vicinity of the well screen. Water level drawdown provides the best indication of the stress imparted by a given flow rate for a given hydrological situation. The objective is to pump in a manner that minimizes stress (drawdown) to the system, to the extent practical, taking into account established Site sampling objectives. Flow rates on the order of 0.1 to 0.5 liters per minute (L/min) are maintained during sampling activities, using dedicated or decontaminated sampling equipment.

The groundwater samples are collected from each monitoring well once produced groundwater is consistent

[1] NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD District 3 Office has indicated that the updated GQSs will not be enforced until sometime in 2020. Therefore, this document reflects the previous GQSs which are currently being enforced.

in color, clarity, pH, temperature, and conductivity. Measurements are taken every three to five minutes while purging. Purging is considered complete once key parameters (especially pH and conductivity) have stabilized for three successive readings.

Groundwater samples were collected in laboratory supplied containers, labeled/sealed using the laboratory supplied labels and custody seals, and stored on ice in a cooler. The groundwater samples were relinquished to the courier for Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico under proper chain-of-custody procedures.

2.2 Groundwater Laboratory Analytical Methods

The groundwater samples collected from the monitoring wells during the 2018 groundwater sampling events were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) utilizing Environmental Protection Agency (EPA) method SW-846 #8021/8260. The containers were pre-preserved with mercuric chloride ($HgCl_2$).

A summary of the per-event analytes, sample matrix, sample frequency and EPA-approved methods are presented on the following table.

Analytes	Sample Matrix	No. of Samples (per event)	EPA Method
BTEX	Groundwater	12	SW-846 8021/8260

Laboratory analytical results are summarized in **Table 1** in **Appendix B**. The executed chain-of-custody forms and laboratory data sheets are provided in **Appendix C**.

2.3 Groundwater Flow Direction

Each of the monitoring wells has been surveyed to determine top-of-casing (TOC) elevations. Prior to sample collection, Apex gauged the depth to fluids in each monitoring well. The groundwater flow direction (gradient) at the Site is generally toward the west-northwest. The observed gradient during the May and November 2018 monitoring events averages approximately 0.010 feet per foot (ft/ft) across the Site.

Groundwater measurements collected during the May and November 2018 gauging events are presented with TOC elevations in **Table 2** (**Appendix B**). Groundwater gradient maps for the May and November 2018 gauging events are included as **Figure 4A** and **4B** (**Appendix A**).

2.4 Data Evaluation

Ensolum compared the BTEX laboratory analytical results or laboratory practical quantitation limits (PQLs) associated with the groundwater samples collected from monitoring wells during the May and November 2018 sampling events to the New Mexico WQCC GQSs.[1] The results of the groundwater sample analyses are summarized in **Table 1** of **Appendix B**. Groundwater Quality Standards Exceedance Zone maps are provided as **Figures 5A** and **5B** of **Appendix A**.

May 2018

The groundwater sample collected from monitoring well MW-19 exhibited a benzene concentration of 250 micrograms per liter (µg/L), which exceeds the WQCC GQS[1] of 10 µg/L. The groundwater sample collected from monitoring well MW-1 exhibited a benzene concentration of 3.0 µg/L, which is below the WQCC GQS[1] of 10 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit benzene

concentrations above the laboratory PQLs, which are below the WQCC GQS[1] of 10 µg/L.

The groundwater samples collected from the monitoring wells did not exhibit toluene concentrations above the laboratory PQLs, which are below the WQCC GQS[1] of 750 µg/L.

The groundwater sample collected from monitoring well MW-19 exhibited a ethylbenzene concentration of 83 µg/L, which is below the WQCC GQS[1] of 750 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit ethylbenzene concentrations above the laboratory PQLs, which are below the WQCC GQS[1] of 750 µg/L.

The groundwater samples collected from monitoring wells MW-1 and MW-19 exhibited total xylenes concentrations of 2.2 µg/L and 260 µg/L, respectively, which are below the WQCC GQS[1] of 620 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit total xylenes concentrations above the laboratory PQLs, which are below the WQCC GQS[1] of 620 µg/L.

No data qualifier flags were associated with the May 2018 analytical results.

November 2018

The groundwater sample collected from monitoring well MW-19 exhibited a benzene concentration of 230 µg/L, which exceeds the WQCC GQS[1] of 10 µg/L. The groundwater sample collected from monitoring well MW-1 exhibited a benzene concentration of 1.2 µg/L, which is below the WQCC GQS[1] of 10 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit benzene concentrations above the laboratory PQLs, which are below the WQCC GQS[1] of 10 µg/L.

The groundwater samples collected from the monitoring wells did not exhibit toluene concentrations above the laboratory PQLs, which are below the WQCC GQS[1] of 750 µg/L.

The groundwater sample collected from monitoring well MW-19 exhibited a ethylbenzene concentration of 62 µg/L, respectively, which is below the WQCC GQS[1] of 750 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit ethylbenzene concentrations above the laboratory PQLs, which are below the WQCC GQS[1] of 750 µg/L.

The groundwater sample collected from monitoring well MW-19 exhibited a total xylenes concentration of 280 µg/L, which is below the WQCC GQS[1] of 620 µg/L. The groundwater samples collected from the remaining monitoring wells did not exhibit total xylenes concentrations above the laboratory PQLs, which are below the WQCC GQS[1] of 620 µg/L.

No data qualifier flags were associated with the November 2018 analytical results.

3.0 FINDINGS AND RECOMMENDATIONS

Groundwater sampling events were conducted by Apex at the Lateral K-51 Pipeline Release Site during May and November 2018. The objective of the groundwater monitoring events was to monitor the generally declining COC concentrations at the Site.

- The groundwater flow direction at the Site is generally towards the west-northwest, with an approximate gradient of 0.010 ft/ft across the Site.

- The groundwater samples collected from monitoring well MW-19 (during the May and November 2018 sampling events) exhibited benzene concentrations of 250 µg/L and 230 µg/L, which exceed the WQCC GQS[1] of 10 µg/L. Groundwater samples from all other monitor wells during these events indicated non-detectable concentrations or concentrations below the WQCC GQSs for all COCs.

- With the exception of monitoring well MW-19, results from the sampling events at the Site demonstrate generally declining COC concentrations in groundwater.

Based on the results of groundwater monitoring activities, Ensolum has the following recommendations:

- Report the groundwater monitoring results to the New Mexico EMNRD OCD;
- Continue semi-annual groundwater monitoring at the Site to monitor natural attenuation of COCs in groundwater;
- Once approved by the New Mexico EMNRD OCD, implement additional Site-specific aquifer testing, install a shallow recovery well upgradient of monitoring well MW-19, and repair or replace monitoring well MW-18, as described in the Stage 1 Abatement Plan; and,
- After the Stage 1 Abatement Plan has been fully implemented, prepare a Stage 2 Abatement Plan.

4.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

4.1 Standard of Care

Ensolum's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Ensolum makes no warranties, express or implied, as to the services performed hereunder. Additionally, Ensolum does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client, as detailed in our proposal.

4.2 Additional Limitations

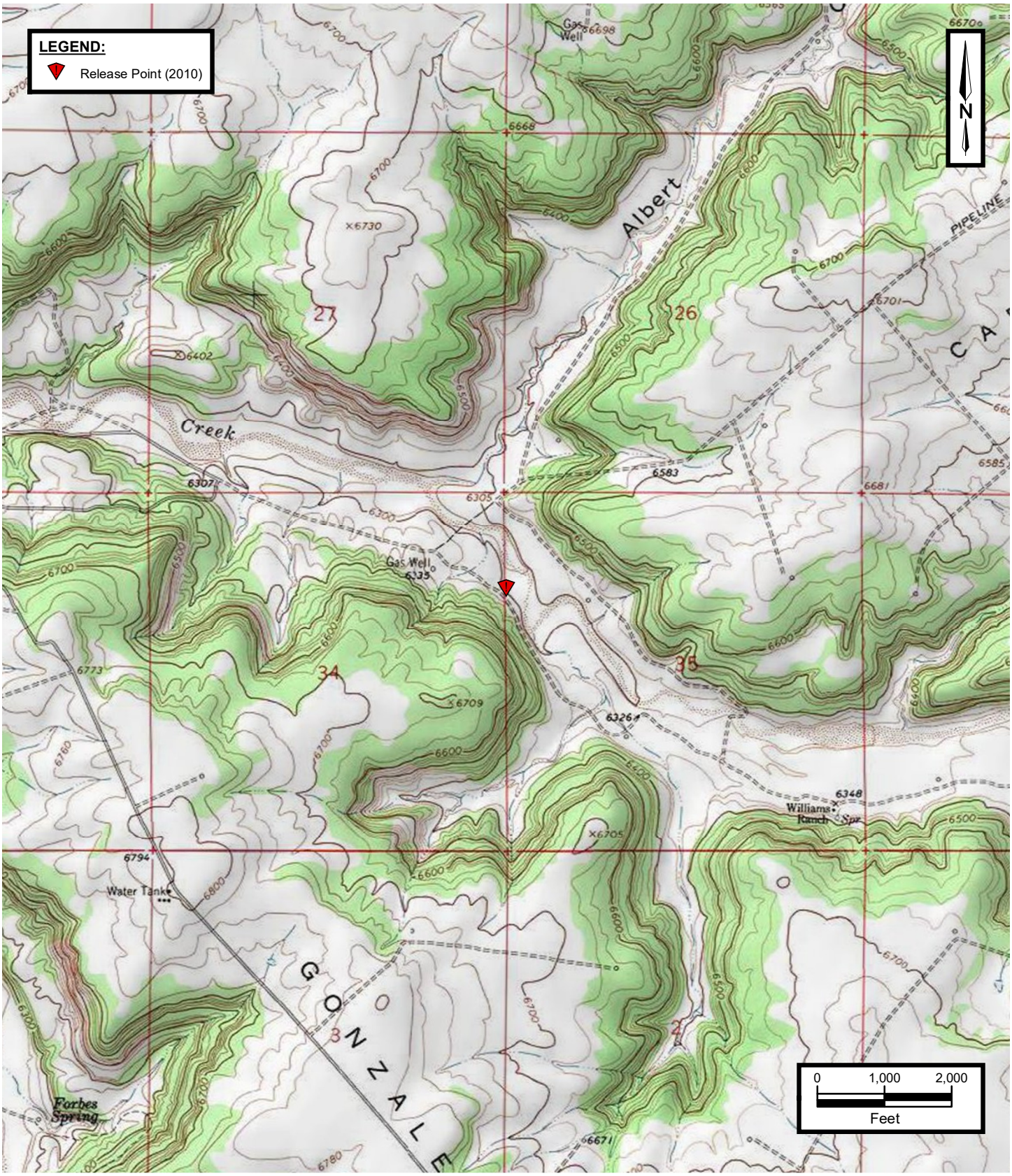
Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Ensolum cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during the investigation. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Ensolum's findings, and recommendations are based solely upon data available to Ensolum at the time of these services.

4.3 Reliance

This report has been prepared for the exclusive use of Enterprise Products Operating LLC, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization Enterprise Products Operating LLC and Ensolum. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the report, and Ensolum's Master Services Agreement. The limitation of liability defined in the agreement is the aggregate limit of Ensolum's liability to the client.

APPENDIX A

Figures



ENSOLUM
Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
K-51 PIPELINE RELEASE
Section 34 and 35 T26N R6W, Rio Arriba County, New Mexico
36.4465° N, 107.4461° W

PROJECT NUMBER: 05A1226010

FIGURE
1

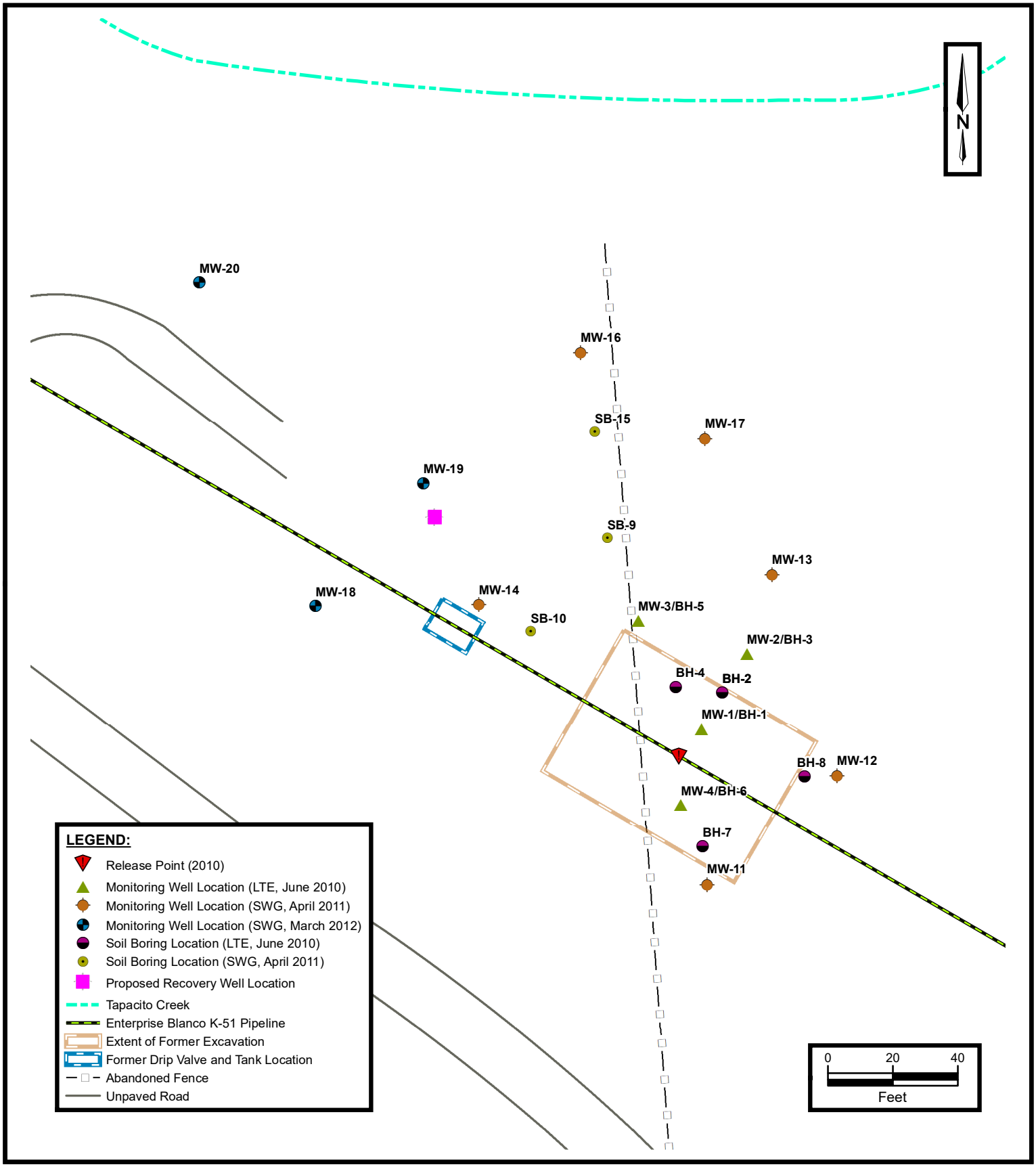
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
K-51 PIPELINE RELEASE
Section 34 and 35 T26N R6W, Rio Arriba County, New Mexico
36.4465° N, 107.4461° W

PROJECT NUMBER: 05A1226010

FIGURE
2



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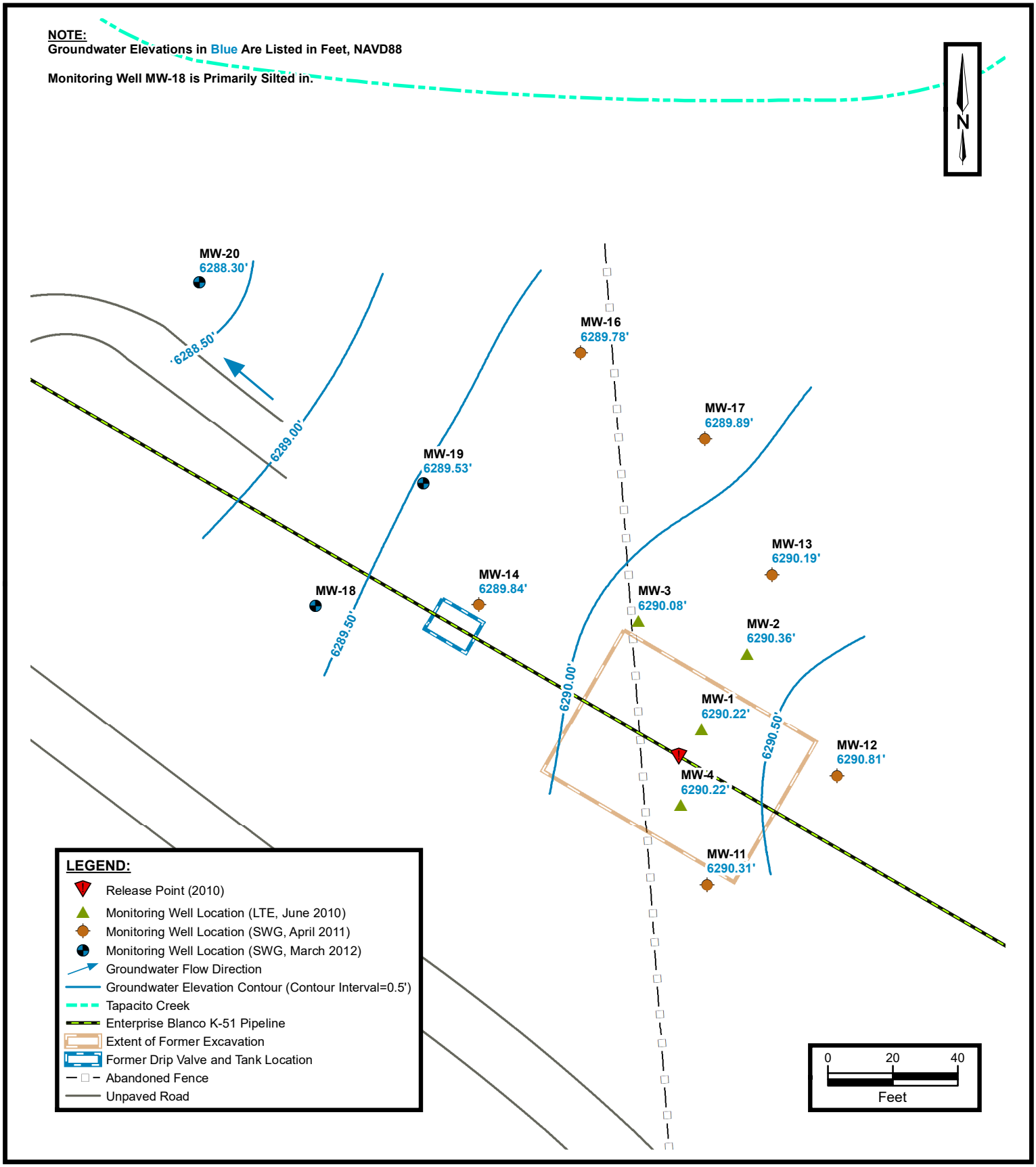
SITE MAP

ENTERPRISE FIELD SERVICES, LLC
K-51 PIPELINE RELEASE
Section 34 and 35 T26N R6W, Rio Arriba County, New Mexico
36.4465° N, 107.4461° W

PROJECT NUMBER: 05A1226010

FIGURE
3



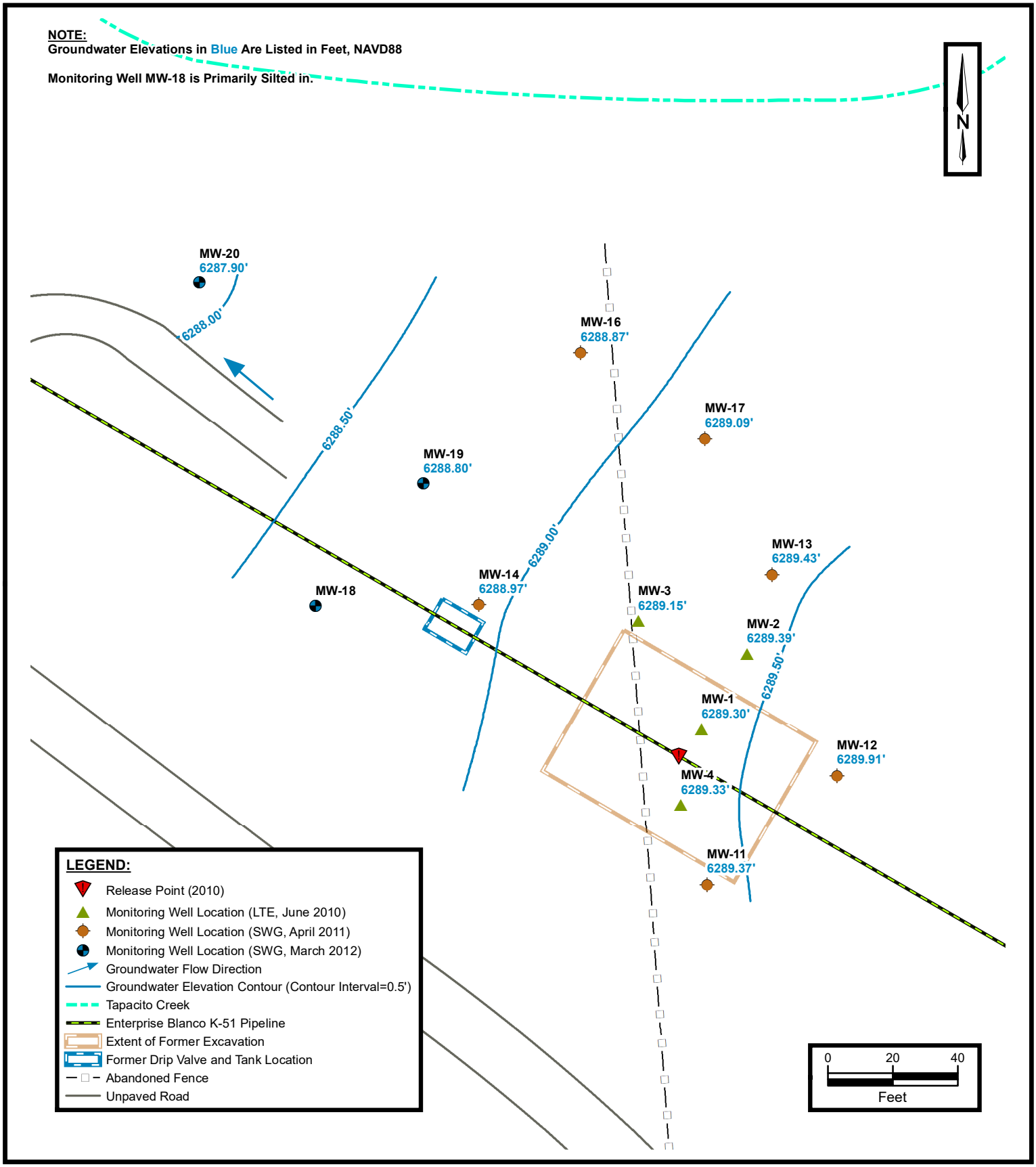
ENSOLUM
Environmental & Hydrogeologic Consultants

GROUNDWATER GRADIENT MAP
(MAY 2018)

ENTERPRISE FIELD SERVICES, LLC
K-51 PIPELINE RELEASE
Section 34 and 35 T26N R6W, Rio Arriba County, New Mexico
36.4465° N, 107.4461° W

PROJECT NUMBER: 05A1226010

FIGURE
4A



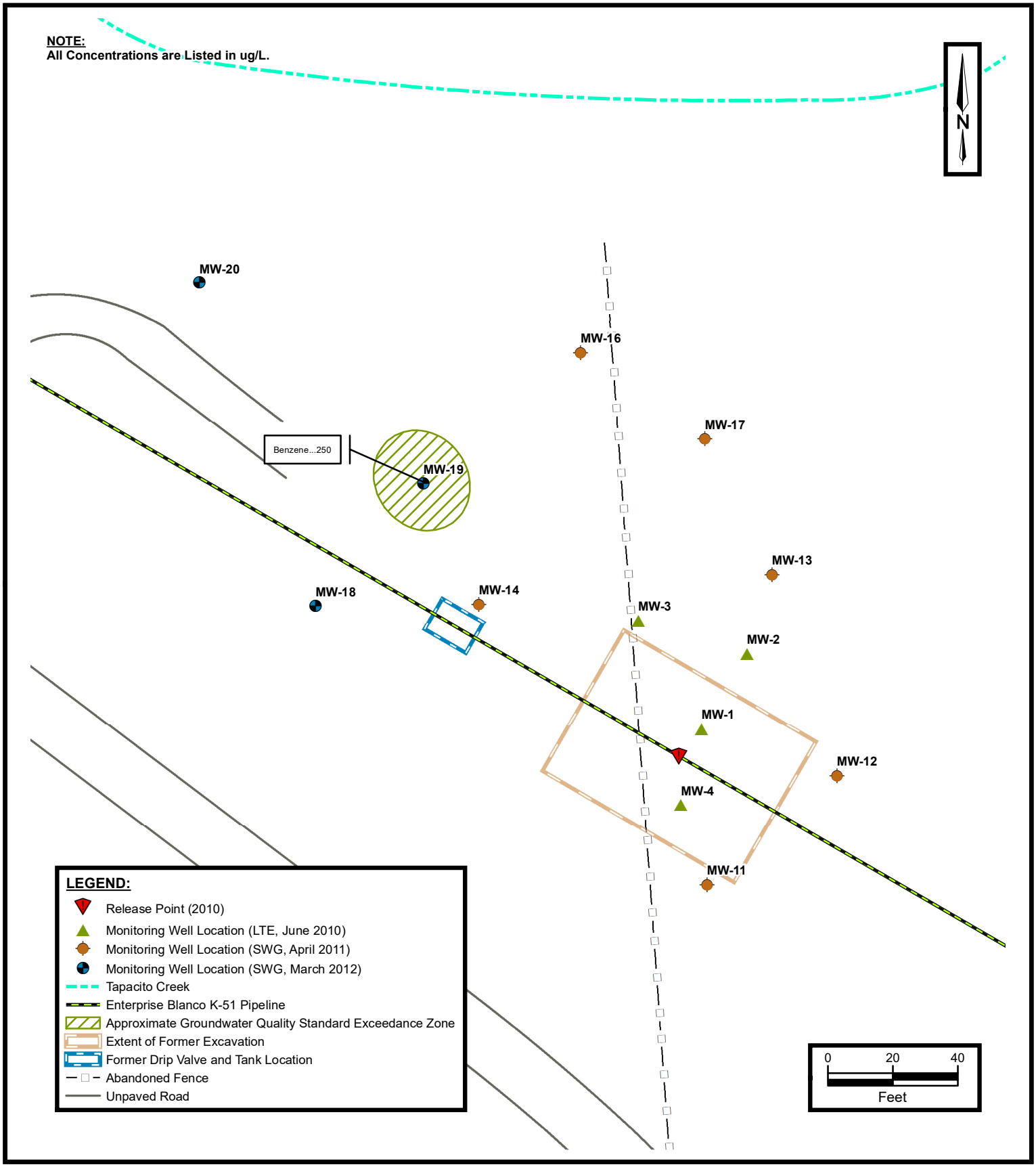
ENSOLUM
Environmental & Hydrogeologic Consultants

GROUNDWATER GRADIENT MAP
(NOVEMBER 2018)

ENTERPRISE FIELD SERVICES, LLC
K-51 PIPELINE RELEASE
Section 34 and 35 T26N R6W, Rio Arriba County, New Mexico
36.4465° N, 107.4461° W

PROJECT NUMBER: 05A1226010

FIGURE
4B



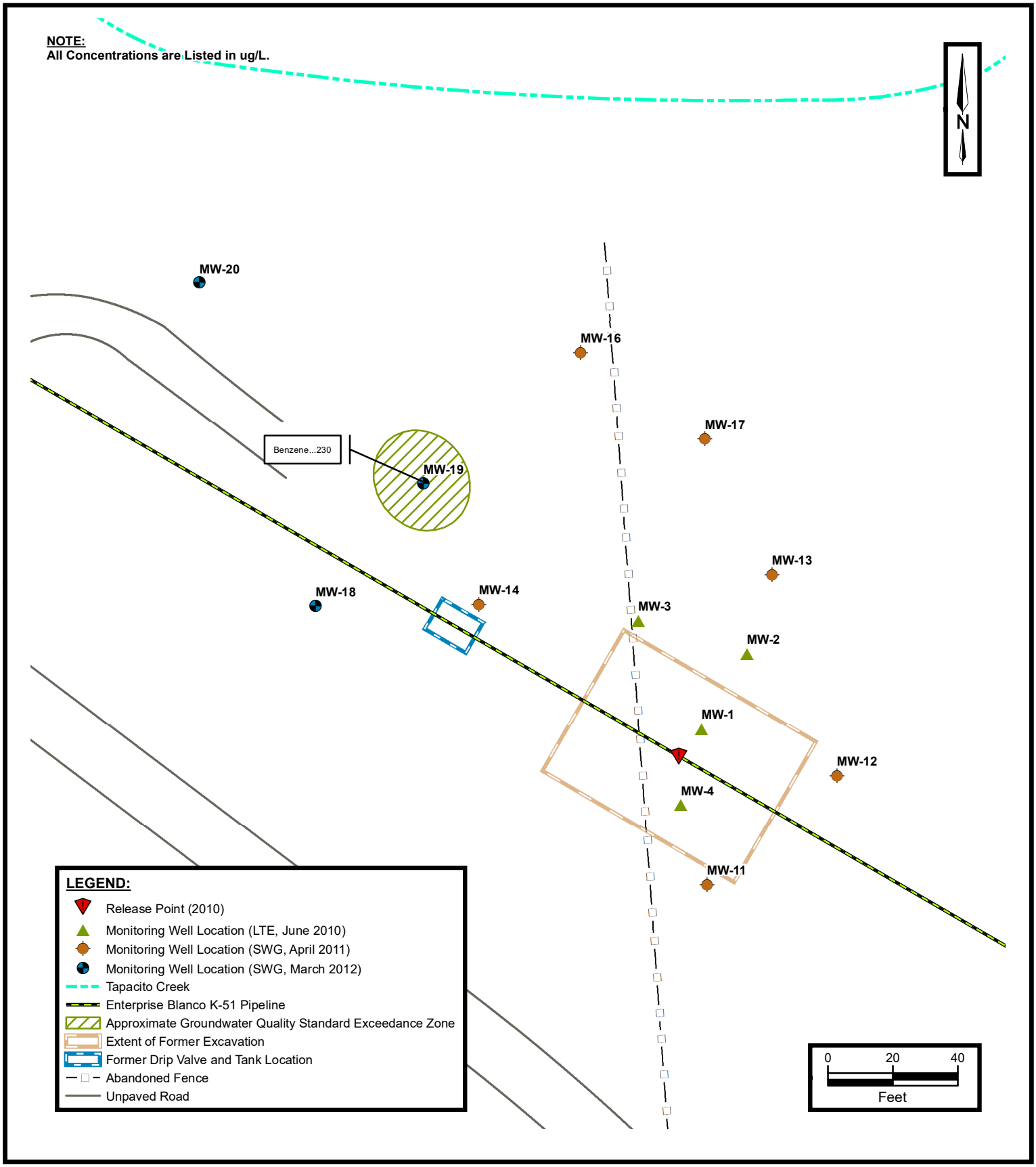
ENSOLUM
Environmental & Hydrogeologic Consultants

GROUNDWATER QUALITY STANDARD EXCEEDANCE ZONE MAP (MAY 2018)

ENTERPRISE FIELD SERVICES, LLC
K-51 PIPELINE RELEASE
Section 34 and 35 T26N R6W, Rio Arriba County, New Mexico
36.4465° N, 107.4461° W

PROJECT NUMBER: 05A1226010

FIGURE
5A



ENSOLUM
Environmental & Hydrogeologic Consultants

GROUNDWATER QUALITY STANDARD EXCEEDANCE ZONE MAP (NOVEMBER 2018)

ENTERPRISE FIELD SERVICES, LLC
K-51 PIPELINE RELEASE
Section 34 and 35 T26N R6W, Rio Arriba County, New Mexico
36.4465° N, 107.4461° W

PROJECT NUMBER: 05A1226010

FIGURE
5B

APPENDIX B

Tables

ENSOLUM

TABLE 1
K-51 Pipeline Release
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]	NE	NE
SMA Sample - Open Excavation							
Excavation	4.21.10	**7,000**	**13,000**	540	**5,200**	NA	NA
Monitoring Wells Installed by LTE							
MW-1	6.21.10	**8,400**	**1,300**	560	**4,200**	NA	NA
	9.24.10	**2,300**	28	200	520	8.4	<1.0
	4.21.11	**430**	<20	120	60	2.1	<1.0
	6.21.11	**820**	370	33	140	5.1	130
	9.22.11	**690**	**1,200**	120	**1,200**	8.9	30
	12.13.11	**260**	250	54	**650**	3.4	<1.0
	3.20.12	**280**	230	94	550	3.5	<1.0
	6.19.12	**300**	<5.0	81	96	1.7	<1.0
	9.20.12*	**45**	3.4	15	23	0.45	<1.0
	12.17.12	**34**	<1.0	11	16	0.19	<1.0
	3.25.13	**41**	<1.0	19	32	0.27	<1.0
	6.27.13	**24**	<1.0	<1.0	36	0.22	<1.0
	10.22.13	**39**	<1.0	24	13	0.23	<1.0
	12.16.13	**10**	<1.0	14	11	0.18	<1.0
	4.18.14	**23**	<1.0	28	86	0.38	1.1
	11.6.14	**32**	<1.0	27	61	NA	NA
	5.29.15	**11**	<1.0	21	55	NA	NA
	12.1.15	5.3	<1.0	4.0	6.2	NA	NA
	5.26.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.08.16	**17**	<1.0	1.6	2.4	NA	NA
	5.30.17	4.1	<1.0	<1.0	<1.5	NA	NA
	12.07.17	2.8	<1.0	2.0	<1.5	NA	NA
	5.30.18	3.0	<1.0	<1.0	2.2	NA	NA
	11.02.18	1.2	<1.0	<1.0	<1.5	NA	NA
MW-2	6.21.10	**200**	53	14	96	NA	NA
	9.24.10	2.3	<1.0	<1.0	<2.0	<0.050	<1.0
	4.21.11	3.3	<1.0	<1.0	<2.0	0.065	<1.0
	6.21.11	2.2	<1.0	<1.0	<2.0	<0.050	<1.0
	9.22.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.20.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.17.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.25.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.27.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	10.21.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	4.17.14	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.28.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	12.1.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.25.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.08.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	12.06.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.30.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.01.18	<1.0	<1.0	<1.0	<1.5	NA	NA

ENSOLUM

TABLE 1
K-51 Pipeline Release
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]	NE	NE
MW-3	6.21.10	**640**	57	72	**1,000**	NA	NA
	9.24.10	**150**	<1.0	16	28	0.48	<1.0
	4.21.11	**52**	<1.0	17	10	0.25	<1.0
	6.21.11	**62**	14	13	160	0.67	<1.0
	9.22.11	3	<1.0	8.7	<2.0	0.066	<1.0
	12.13.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.20.12	1.3	<1.0	1.9	<2.0	<0.050	<1.0
	6.19.12	3.1	<1.0	1.4	<2.0	<0.050	<1.0
	9.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.17.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.25.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.27.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	10.21.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	4.17.14	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.28.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	12.1.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.08.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.30.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	12.07.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.30.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.01.18	<1.0	<1.0	<1.0	<1.5	NA	NA
MW-4	6.21.10	**3,600**	**10,000**	600	**6,600**	NA	NA
	9.24.10	**870**	**870**	260	**1,600**	12	1
	4.21.11	**670**	<20	520	**790**	6.3	<1.0
	6.21.11	**17**	22	36	77	0.64	1.1
	9.22.11	**62**	140	220	**820**	3.8	1.2
	12.13.11	**84**	<20	430	490	2.6	<1.0
	3.20.12	**36**	<20	**1,100**	**1,400**	6.5	<1.0
	6.19.12	**37**	<5.0	250	350	2.2	<1.0
	9.19.12	9.4	1.4	74	97	0.84	<1.0
	12.17.12	<1.0	<1.0	6.2	9.7	0.12	<1.0
	3.25.13	3.2	<1.0	51	55	1.0	<1.0
	6.27.13	3.9	<1.0	61	60	1.3	<1.0
	10.22.13	<1.0	<1.0	12	3.8	0.13	<1.0
	12.13.13	<1.0	<1.0	16	6.2	0.4	<1.0
	4.17.14	<1.0	<1.0	76	14	0.78	<1.0
	11.6.14	<1.0	<1.0	11	2.9	NA	NA
	5.29.15	<1.0	<1.0	24	6.1	NA	NA
	12.1.15	<1.0	<1.0	2.5	2.1	NA	NA
	5.25.16	<1.0	<1.0	7.4	<2.0	NA	NA
	11.08.16	2.4	<1.0	4.8	2.1	NA	NA
	5.26.17	<1.0	<1.0	3.9	<1.5	NA	NA
	12.06.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.30.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.01.18	<1.0	<1.0	<1.0	<1.5	NA	NA

ENSOLUM

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Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]	NE	NE
Monitoring Wells Installed by Apex TITAN (formerly Southwest Geoscience)							
MW-11	4.21.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.21.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.22.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.20.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.17.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.25.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.27.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	10.21.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	4.17.14	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.29.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.30.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.25.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.08.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	12.06.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.30.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.01.18	<1.0	<1.0	<1.0	<1.5	NA	NA
MW-12	4.21.11	1.9	<1.0	<1.0	<2.0	<0.050	<1.0
	6.21.11	4.6	<1.0	<1.0	<2.0	0.063	<1.0
	9.22.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.20.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.19.12	1.7	<1.0	<1.0	<2.0	<0.050	<1.0
	9.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.17.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.25.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.27.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	10.21.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	4.17.14	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.29.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.30.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.25.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.08.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	12.06.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.30.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.01.18	<1.0	<1.0	<1.0	<1.5	NA	NA

ENSOLUM

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Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]	NE	NE
MW-13	4.21.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.21.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.22.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.20.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.20.12	NS	NS	NS	NS	NS	NS
	12.17.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.25.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.27.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	10.21.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.12.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	4.17.14	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.28.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.30.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.25.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.08.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	12.06.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.30.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.01.18	<1.0	<1.0	<1.0	<1.5	NA	NA
MW-14	4.21.11	**2,800**	<100	280	**720**	8.7	<1.0
	6.21.11	**470**	<10	37	210	1.9	<1.0
	9.22.11	**540**	<10	100	36	1.7	<1.0
	12.13.11	**220**	<10	110	<20	1.0	<1.0
	3.20.12	**660**	<5.0	240	15	2.9	<1.0
	6.19.12	**660**	<5.0	300	100	3.4	<1.0
	9.20.12*	7.3	<1.0	<1.0	<2.0	0.1	<1.0
	12.17.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.25.13	<1.0	<1.0	1.6	<2.0	<0.050	<1.0
	6.27.13	**34**	4.4	30	130	0.56	1.4
	10.22.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.16.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	4.18.14	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.28.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.30.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.07.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	12.06.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.31.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.01.18	<1.0	<1.0	<1.0	<1.5	NA	NA

ENSOLUM

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Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]	NE	NE
MW-16	4.21.11	4.4	<2.0	<2.0	<4.0	<0.10	<1.0
	6.21.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.22.11	<1.0	<1.0	<1.0	<2.0	0.065	<1.0
	12.13.11	<1.0	<1.0	<1.0	<2.0	0.12	<1.0
	3.20.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.17.12	3.1	<1.0	2.1	14	0.19	<1.0
	3.25.13	<1.0	<1.0	<1.0	<1.0	<0.050	<1.0
	6.27.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	10.21.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.12.13	1	<1.0	<1.0	<2.0	<0.050	<1.0
	4.17.14	1.4	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14	1.2	<1.0	<1.0	<2.0	NA	NA
	5.29.15	3.0	<1.0	<1.0	<2.0	NA	NA
	12.1.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.25.16	2.2	<1.0	<1.0	<2.0	NA	NA
	11.07.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.30.17	2.1	<1.0	<1.0	<1.5	NA	NA
	12.07.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.31.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.02.18	<1.0	<1.0	<1.0	<1.5	NA	NA
MW-17	4.21.11	<2.0	<2.0	<2.0	<4.0	<0.10	<1.0
	6.21.11	<2.0	<2.0	<2.0	<4.0	<0.10	<1.0
	9.22.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.13.11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.20.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.17.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.25.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.27.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	10.21.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.12.13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	4.17.14	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.28.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	12.1.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.25.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.07.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	12.07.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.31.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.01.18	<1.0	<1.0	<1.0	<1.5	NA	NA

ENSOLUM

TABLE 1
K-51 Pipeline Release
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPH GRO (mg/L)	TPH DRO (mg/L)
New Mexico Water Quality Control Commmission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]	NE	NE
MW-18	3.20.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.19.12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	9.20.12*	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.17.12	<2.0	<2.0	<2.0	<4.0	<0.10	<1.0
	3.25.13	NS	NS	NS	NS	NS	NS
	6.27.13	NS	NS	NS	NS	NS	NS
	10.21.13	NS	NS	NS	NS	NS	NS
	12.12.13	NS	NS	NS	NS	NS	NS
	4.17.14	NS	NS	NS	NS	NS	NS
	11.6.14	NS	NS	NS	NS	NS	NS
	5.29.15	NS	NS	NS	NS	NS	NS
	11.30.15	NS	NS	NS	NS	NS	NS
	5.25.16	NS	NS	NS	NS	NS	NS
	11.07.16	NS	NS	NS	NS	NS	NS
	5.26.17	NS	NS	NS	NS	NS	NS
	12.07.17	NS	NS	NS	NS	NS	NS
	5.30.18	NS	NS	NS	NS	NS	NS
	11.01.18	NS	NS	NS	NS	NS	NS
MW-19	3.20.12	**250**	56	310	**3,900**	16	5.3
	6.19.12	**NAPL**	**NAPL**	**NAPL**	**NAPL**	NA	NA
	9.19.12	**NAPL**	**NAPL**	**NAPL**	**NAPL**	NA	NA
	12.17.12	**180**	<5.0	5.4	23	2.2	2.6
	3.25.13	**160**	<5.0	17	<10	1.5	1.4
	6.27.13	**390**	<1.0	79	66	2.7	5.9
	10.22.13	**140**	<1.0	<1.0	<2.0	0.51	2.1
	12.16.13	**160**	<1.0	37	12	1.4	4.2
	4.18.14	**230**	<1.0	41	53	2.2	10
	11.6.14	**260**	<1.0	75	42	NA	NA
	5.29.15	**190**	<1.0	7.2	81	NA	NA
	12.1.15	**210**	<1.0	75	23	NA	NA
	5.26.16	**260**	<1.0	86	340	NA	NA
	11.08.16	**270**	<1.0	80	190	NA	NA
	5.30.17	**270**	<1.0	88	**640**	NA	NA
	12.07.17	**180**	<1.0	70	150	NA	NA
	5.31.18	**250**	<10	83	260	NA	NA
	11.02.18	**230**	<5.0	62	280	NA	NA
MW-20	3.20.12	**35**	<1.0	1.1	3.3	0.14	<1.0
	6.19.12	3.4	<1.0	<1.0	<2.0	<0.050	<1.0
	9.20.12*	4.7	<1.0	<1.0	<2.0	<0.050	<1.0
	12.17.12*	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	3.25.13*	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	6.27.13*	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	10.22.13*	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	12.16.13*	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	4.18.14*	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0
	11.6.14*	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.29.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	12.1.15	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.26.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	11.07.16	<1.0	<1.0	<1.0	<2.0	NA	NA
	5.30.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	12.07.17	<1.0	<1.0	<1.0	<1.5	NA	NA
	5.31.18	<1.0	<1.0	<1.0	<1.5	NA	NA
	11.02.18	<1.0	<1.0	<1.0	<1.5	NA	NA

Note: Concentrations in **bold** and yellow exceed the applicable WQCC GQS

[A] = NM EMNRD OCD District 3 has advised that the new 20.6.2 NMAC standards (12/21/18) will not be enforced by NM EMNRD OCD until sometime in 2020

* = Monitoring well purged/sampled utilizing disposable bailer during this event

µg/L= micrograms per liter

mg/L= milligrams per liter

NA = Not Analyzed

NS = Not Sampled

NE = Not Established

NAPL = Non-aqueous phase liquid

TPH = Total Petroleum Hydrocarbon

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

ENSOLUM

TABLE 2
K-51 Pipeline Release
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-1	4.21.11	ND	11.80	ND	6300.89	6289.09
	6.21.11	ND	12.16	ND		6288.73
	9.22.11	ND	12.92	ND		6287.97
	12.13.11	ND	12.45	ND		6288.44
	3.20.12	ND	12.13	ND		6288.76
	6.19.12	ND	12.76	ND		6288.13
	9.19.12	ND	13.10	ND		6287.79
	12.17.12	ND	12.33	ND		6288.56
	3.15.13	ND	11.88	ND		6289.01
	6.27.13	ND	12.61	ND		6288.28
	10.22.13	ND	11.71	ND		6289.18
	12.12.13	ND	11.35	ND		6289.54
	4.18.14	ND	11.04	ND		6289.85
	11.6.14	ND	11.56	ND		6289.33
	5.28.15	ND	10.86	ND		6290.03
	11.30.15	ND	10.90	ND		6289.99
	5.25.16	ND	10.52	ND		6290.37
	11.07.16	ND	11.42	ND		6289.47
	5.26.17	ND	10.41	ND		6290.48
	12.06.17	ND	10.53	ND		6290.36
	5.30.18	ND	10.67	ND		6290.22
	11.01.18	ND	11.59	ND		6289.30
MW-2	4.21.11	ND	10.55	ND	6299.82	6289.27
	6.21.11	ND	11.87	ND		6287.95
	9.22.11	ND	11.86	ND		6287.96
	12.13.11	ND	11.38	ND		6288.44
	3.20.12	ND	10.95	ND		6288.87
	6.19.12	ND	11.64	ND		6288.18
	9.19.12	ND	12.10	ND		6287.72
	12.17.12	ND	11.23	ND		6288.59
	3.15.13	ND	10.65	ND		6289.17
	6.27.13	ND	11.44	ND		6288.38
	10.21.13	ND	10.44	ND		6289.38
	12.12.13	ND	10.09	ND		6289.73
	4.17.14	ND	9.73	ND		6290.09
	11.6.14	ND	10.33	ND		6289.49
	5.28.15	ND	9.61	ND		6290.21
	11.30.15	ND	9.67	ND		6290.15
	5.25.16	ND	9.34	ND		6290.48
	11.07.16	ND	10.24	ND		6289.58
	5.26.17	ND	9.23	ND		6290.59
	12.06.17	ND	9.33	ND		6290.49
	5.30.18	ND	9.46	ND		6290.36
	11.01.18	ND	10.43	ND		6289.39
MW-3	4.21.11	ND	11.30	ND	6300.22	6288.92
	6.21.11	ND	11.64	ND		6288.58
	9.22.11	ND	12.45	ND		6287.77
	12.13.11	ND	11.89	ND		6288.33
	3.20.12	ND	11.60	ND		6288.62
	6.19.12	ND	12.22	ND		6288.00
	9.19.12	ND	12.53	ND		6287.69
	12.17.12	ND	11.75	ND		6288.47
	3.15.13	ND	11.37	ND		6288.85
	6.27.13	ND	12.06	ND		6288.16
	10.21.13	ND	11.12	ND		6289.10
	12.12.13	ND	10.84	ND		6289.38
	4.17.14	ND	10.55	ND		6289.67
	11.6.14	ND	11.02	ND		6289.20
	5.28.15	ND	10.37	ND		6289.85
	11.30.15	ND	10.40	ND		6289.82
	5.25.16	ND	10.10	ND		6290.12
	11.07.16	ND	10.90	ND		6289.32
	5.26.17	ND	10.00	ND		6290.22
	12.06.17	ND	10.05	ND		6290.17
	5.30.18	ND	10.14	ND		6290.08
	11.01.18	ND	11.07	ND		6289.15

ENSOLUM

TABLE 2
K-51 Pipeline Release
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-4	4.21.11	ND	11.90	ND	6300.91	6289.01
	6.21.11	ND	12.18	ND		6288.73
	9.22.11	ND	12.90	ND		6288.01
	12.13.11	ND	12.41	ND		6288.50
	3.20.12	ND	12.45	ND		6288.46
	6.19.12	ND	12.72	ND		6288.19
	9.19.12	ND	13.09	ND		6287.82
	12.17.12	ND	12.33	ND		6288.58
	3.15.13	ND	11.85	ND		6289.06
	6.27.13	ND	12.60	ND		6288.31
	10.22.13	ND	11.74	ND		6289.17
	12.12.13	ND	11.37	ND		6289.54
	4.17.14	ND	11.05	ND		6289.86
	11.6.14	ND	11.58	ND		6289.33
	5.28.15	ND	10.91	ND		6290.00
	11.30.15	ND	10.94	ND		6289.97
	5.25.16	ND	10.59	ND		6290.32
	11.07.16	ND	11.43	ND		6289.48
	5.26.17	ND	10.47	ND		6290.44
	12.06.17	ND	10.60	ND		6290.31
	5.30.18	ND	10.69	ND		6290.22
	11.01.18	ND	11.58	ND		6289.33
MW-11	4.21.11	ND	11.98	ND	6301.19	6289.21
	6.21.11	ND	12.40	ND		6288.79
	9.22.11	ND	13.07	ND		6288.12
	12.13.11	ND	12.55	ND		6288.64
	3.20.12	ND	12.26	ND		6288.93
	6.19.12	ND	12.93	ND		6288.26
	9.19.12	ND	13.27	ND		6287.92
	12.17.12	ND	12.51	ND		6288.68
	3.15.13	ND	12.05	ND		6289.14
	6.27.13	ND	12.82	ND		6288.37
	10.21.13	ND	11.94	ND		6289.25
	12.12.13	ND	11.61	ND		6289.58
	4.17.14	ND	11.25	ND		6289.94
	11.6.14	ND	11.80	ND		6289.39
	5.28.15	ND	11.12	ND		6290.07
	11.30.15	ND	11.18	ND		6290.01
	5.25.16	ND	10.79	ND		6290.40
	11.07.16	ND	11.66	ND		6289.53
	5.26.17	ND	10.66	ND		6290.53
	12.06.17	ND	10.82	ND		6290.37
	5.30.18	ND	10.88	ND		6290.31
	11.01.18	ND	11.82	ND		6289.37
MW-12	4.21.11	ND	8.96	ND	6299.08	6290.12
	6.21.11	ND	9.42	ND		6289.66
	9.22.11	ND	10.82	ND		6288.26
	12.13.11	ND	10.13	ND		6288.95
	3.20.12	ND	9.41	ND		6289.67
	6.19.12	ND	10.09	ND		6288.99
	9.19.12	ND	11.03	ND		6288.05
	12.17.12	ND	10.21	ND		6288.87
	3.15.13	ND	9.26	ND		6289.82
	6.27.13	ND	9.99	ND		6289.09
	10.21.13	ND	9.09	ND		6289.99
	12.12.13	ND	8.78	ND		6290.30
	4.17.14	ND	8.44	ND		6290.64
	11.6.14	ND	9.05	ND		6290.03
	5.28.15	ND	8.34	ND		6290.74
	11.30.15	ND	8.44	ND		6290.64
	5.25.16	ND	8.11	ND		6290.97
	11.07.16	ND	8.87	ND		6290.21
	5.26.17	ND	8.01	ND		6291.07
	12.06.17	ND	8.12	ND		6290.96
	5.30.18	ND	8.27	ND		6290.81
	11.01.18	ND	9.17	ND		6289.91

ENSOLUM

TABLE 2
K-51 Pipeline Release
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-13	4.21.11	ND	9.07	ND	6298.27	6289.20
	6.21.11	ND	9.51	ND		6288.76
	9.22.11	ND	10.15	ND		6288.12
	12.13.11	ND	9.59	ND		6288.68
	3.20.12	ND	9.35	ND		6288.92
	6.19.12	ND	10.09	ND		6288.18
	9.19.12	ND	10.29	ND		6287.98
	12.17.12	ND	9.47	ND		6288.80
	3.15.13	ND	9.11	ND		6289.16
	6.27.13	ND	9.94	ND		6288.33
	10.21.13	ND	8.91	ND		6289.36
	12.12.13	ND	8.57	ND		6289.70
	4.17.14	ND	8.39	ND		6289.88
	11.6.14	ND	8.83	ND		6289.44
	5.28.15	ND	8.32	ND		6289.95
	11.30.15	ND	8.21	ND		6290.06
	5.25.16	ND	8.01	ND		6290.26
	11.07.16	ND	8.67	ND		6289.60
	5.26.17	ND	7.83	ND		6290.44
	12.06.17	ND	7.90	ND		6290.37
	5.30.18	ND	8.08	ND		6290.19
	11.01.18	ND	8.84	ND		6289.43
MW-14	4.21.11	ND	12.54	ND	6301.20	6288.66
	6.21.11	ND	12.88	ND		6288.32
	9.22.11	ND	13.53	ND		6287.67
	12.13.11	ND	13.11	ND		6288.09
	3.20.12	ND	12.80	ND		6288.40
	6.19.12	ND	13.42	ND		6287.78
	9.19.12	ND	13.70	ND		6287.50
	12.17.12	ND	12.93	ND		6288.27
	3.15.13	ND	12.55	ND		6288.65
	6.27.13	ND	13.26	ND		6287.94
	10.22.13	ND	12.39	ND		6288.81
	12.12.13	ND	12.06	ND		6289.14
	4.18.14	ND	11.79	ND		6289.41
	11.6.14	ND	12.23	ND		6288.97
	5.28.15	ND	11.67	ND		6289.53
	11.30.15	ND	11.62	ND		6289.58
	5.25.16	ND	11.35	ND		6289.85
	11.07.16	ND	12.09	ND		6289.11
	5.26.17	ND	11.24	ND		6289.96
	12.06.17	ND	11.27	ND		6289.93
	5.30.18	ND	11.36	ND		6289.84
	11.01.18	ND	12.23	ND		6288.97
MW-16	4.21.11	ND	12.06	ND	6299.89	6287.83
	6.21.11	ND	12.26	ND		6287.63
	9.22.11	ND	12.57	ND		6287.32
	12.13.11	ND	12.28	ND		6287.61
	3.20.12	ND	12.24	ND		6287.65
	6.19.12	ND	12.71	ND		6287.18
	9.19.12	ND	12.80	ND		6287.09
	12.17.12	ND	11.90	ND		6287.99
	3.15.13	ND	11.80	ND		6288.09
	6.27.13	ND	12.37	ND		6287.52
	10.21.13	ND	11.32	ND		6288.57
	12.12.13	ND	10.92	ND		6288.97
	4.17.14	ND	10.76	ND		6289.13
	11.6.14	ND	10.99	ND		6288.90
	5.28.15	ND	10.56	ND		6289.33
	11.30.15	ND	10.39	ND		6289.50
	5.25.16	ND	10.10	ND		6289.79
	11.07.16	ND	10.86	ND		6289.03
	5.26.17	ND	10.02	ND		6289.87
	12.06.17	ND	10.01	ND		6289.88
	5.30.18	ND	10.11	ND		6289.78
	11.01.18	ND	11.02	ND		6288.87

ENSOLUM

TABLE 2
K-51 Pipeline Release
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-17	4.21.11	ND	9.90	ND	6298.57	6288.67
	6.21.11	ND	9.56	ND		6289.01
	9.22.11	ND	10.83	ND		6287.74
	12.13.11	ND	10.31	ND		6288.26
	3.20.12	ND	10.12	ND		6288.45
	6.19.12	ND	10.81	ND		6287.76
	9.19.12	ND	10.95	ND		6287.62
	12.17.12	ND	10.13	ND		6288.44
	3.15.13	ND	9.85	ND		6288.72
	6.27.13	ND	10.62	ND		6287.95
	10.21.13	ND	9.61	ND		6288.96
	12.12.13	ND	9.28	ND		6289.29
	4.17.14	ND	9.13	ND		6289.44
	11.6.14	ND	9.47	ND		6289.10
	5.28.15	ND	9.00	ND		6289.57
	11.30.15	ND	8.87	ND		6289.70
	5.25.16	ND	8.65	ND		6289.92
	11.07.16	ND	9.32	ND		6289.25
	5.26.17	ND	8.56	ND		6290.01
	12.06.17	ND	8.52	ND		6290.05
	5.30.18	ND	8.68	ND		6289.89
	11.01.18	ND	9.48	ND		6289.09
MW-18	3.20.12	ND	16.60	ND	6304.77	6288.17
	6.19.12	ND	17.42	ND		6287.35
	9.19.12	ND	17.45	ND		6287.32
	12.17.12	ND	16.73	ND		6288.04
	3.15.13	Blockage	Blockage	Blockage		Blockage
	6.27.13	Blockage	Blockage	Blockage		Blockage
	10.22.13	Blockage	Blockage	Blockage		Blockage
	12.12.13	Blockage	Blockage	Blockage		Blockage
	4.17.14	Blockage	Blockage	Blockage		Blockage
	11.6.14	Blockage	Blockage	Blockage		Blockage
	5.28.15	Blockage	Blockage	Blockage		Blockage
	11.30.15	Blockage	Blockage	Blockage		Blockage
	5.25.16	Blockage	Blockage	Blockage		Blockage
	11.07.16	Blockage	Blockage	Blockage		Blockage
	5.26.17	ND	15.12	ND		6289.65
	12.06.17	ND	15.31	ND		6289.46
	5.30.18	Blockage	Blockage	Blockage		Blockage
	11.01.18	Blockage	Blockage	Blockage		Blockage
MW-19	3.20.12	ND	15.69	ND	6303.80	6288.11
	6.19.12	16.25	16.32	0.07**		6287.52
	9.19.12	16.47	16.49	0.02**		6287.32
	12.17.12	ND	15.91	ND		6287.89
	3.15.13	ND	15.38	ND		6288.42
	6.27.13	ND	16.19	ND		6287.61
	10.22.13	ND	15.13	ND		6288.67
	12.12.13	ND	14.78	ND		6289.02
	4.18.14	ND	14.68	ND		6289.12
	11.6.14	ND	14.99	ND		6288.81
	5.28.15	ND	14.60	ND		6289.20
	11.30.15	ND	14.38	ND		6289.42
	5.25.16	ND	14.28	ND		6289.52
	11.07.16	ND	14.83	ND		6288.97
	5.26.17	ND	14.20	ND		6289.60
	12.06.17	ND	14.08	ND		6289.72
	5.30.18	ND	14.27	ND		6289.53
	11.01.18	ND	15.00	ND		6288.80

ENSOLUM

TABLE 2
K-51 Pipeline Release
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness	TOC Elevations (feet AMSL)	Groundwater Elevation* (feet AMSL)
MW-20	3.20.12	ND	25.82	ND	6312.59	6286.77
	6.19.12	ND	26.30	ND		6286.29
	9.19.12	ND	26.31	ND		6286.28
	12.17.12	ND	25.42	ND		6287.17
	3.15.13	ND	25.38	ND		6287.21
	6.27.13	ND	26.11	ND		6286.48
	10.22.13	ND	24.98	ND		6287.61
	12.12.13	ND	24.57	ND		6288.02
	4.17.14	ND	24.66	ND		6287.93
	11.6.14	ND	24.81	ND		6287.78
	5.28.15	ND	24.80	ND		6287.79
	11.30.15	ND	24.15	ND		6288.44
	5.25.16	ND	24.28	ND		6288.31
	11.07.16	ND	24.48	ND		6288.11
	5.26.17	ND	24.37	ND		6288.22
	12.06.17	ND	23.95	ND		6288.64
	5.30.18	ND	24.29	ND		6288.30
	11.01.18	ND	24.69	ND		6287.90

BTOC - below top of casing

AMSL - above mean sea level (North American Vertical Datum 1988)

TOC - top of casing

* - corrected for presence of phase-sepated hydrocarbon using a site-specific density correction factor of 0.63

** - No visual verification. May not be hydrocarbon.

ND - Not Detected

APPENDIX C

Laboratory Data Sheets & Chain of Custody Documentation

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 06, 2018

Kyle Summers
APEX TITAN
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Lateral K-51 OrderNo.: 1806030

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 12 sample(s) on 6/1/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1806030**
Date Reported: **6/6/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-11
Project: Lateral K-51
Collection Date: 5/30/2018 9:50:00 AM
Lab ID: 1806030-001
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/4/2018 6:43:39 PM	A51729
Toluene	ND	1.0		µg/L	1	6/4/2018 6:43:39 PM	A51729
Ethylbenzene	ND	1.0		µg/L	1	6/4/2018 6:43:39 PM	A51729
Xylenes, Total	ND	1.5		µg/L	1	6/4/2018 6:43:39 PM	A51729
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	6/4/2018 6:43:39 PM	A51729
Surr: Toluene-d8	104	70-130		%Rec	1	6/4/2018 6:43:39 PM	A51729

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-12
Project: Lateral K-51
Collection Date: 5/30/2018 10:20:00 AM
Lab ID: 1806030-002
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/4/2018 7:52:50 PM	A51729
Toluene	ND	1.0		µg/L	1	6/4/2018 7:52:50 PM	A51729
Ethylbenzene	ND	1.0		µg/L	1	6/4/2018 7:52:50 PM	A51729
Xylenes, Total	ND	1.5		µg/L	1	6/4/2018 7:52:50 PM	A51729
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	6/4/2018 7:52:50 PM	A51729
Surr: Toluene-d8	101	70-130		%Rec	1	6/4/2018 7:52:50 PM	A51729

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-4
Project: Lateral K-51
Collection Date: 5/30/2018 10:50:00 AM
Lab ID: 1806030-003
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/4/2018 8:15:50 PM	A51729
Toluene	ND	1.0		µg/L	1	6/4/2018 8:15:50 PM	A51729
Ethylbenzene	ND	1.0		µg/L	1	6/4/2018 8:15:50 PM	A51729
Xylenes, Total	ND	1.5		µg/L	1	6/4/2018 8:15:50 PM	A51729
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	6/4/2018 8:15:50 PM	A51729
Surr: Toluene-d8	102	70-130		%Rec	1	6/4/2018 8:15:50 PM	A51729

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-2
Project: Lateral K-51
Collection Date: 5/30/2018 11:20:00 AM
Lab ID: 1806030-004
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/5/2018 12:08:24 PM	A51753
Toluene	ND	1.0		µg/L	1	6/5/2018 12:08:24 PM	A51753
Ethylbenzene	ND	1.0		µg/L	1	6/5/2018 12:08:24 PM	A51753
Xylenes, Total	ND	1.5		µg/L	1	6/5/2018 12:08:24 PM	A51753
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	6/5/2018 12:08:24 PM	A51753
Surr: Toluene-d8	105	70-130		%Rec	1	6/5/2018 12:08:24 PM	A51753

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-3
Project: Lateral K-51
Collection Date: 5/30/2018 11:50:00 AM
Lab ID: 1806030-005
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/5/2018 12:54:29 PM	A51753
Toluene	ND	1.0		µg/L	1	6/5/2018 12:54:29 PM	A51753
Ethylbenzene	ND	1.0		µg/L	1	6/5/2018 12:54:29 PM	A51753
Xylenes, Total	ND	1.5		µg/L	1	6/5/2018 12:54:29 PM	A51753
Surr: 4-Bromofluorobenzene	120	70-130		%Rec	1	6/5/2018 12:54:29 PM	A51753
Surr: Toluene-d8	107	70-130		%Rec	1	6/5/2018 12:54:29 PM	A51753

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-1
Project: Lateral K-51
Collection Date: 5/30/2018 12:20:00 PM
Lab ID: 1806030-006
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	3.0	1.0		µg/L	1	6/5/2018 1:17:37 PM	A51753
Toluene	ND	1.0		µg/L	1	6/5/2018 1:17:37 PM	A51753
Ethylbenzene	ND	1.0		µg/L	1	6/5/2018 1:17:37 PM	A51753
Xylenes, Total	2.2	1.5		µg/L	1	6/5/2018 1:17:37 PM	A51753
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	6/5/2018 1:17:37 PM	A51753
Surr: Toluene-d8	106	70-130		%Rec	1	6/5/2018 1:17:37 PM	A51753

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-13
Project: Lateral K-51
Collection Date: 5/30/2018 1:20:00 PM
Lab ID: 1806030-007
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/4/2018 11:20:22 PM	A51729
Toluene	ND	1.0		µg/L	1	6/4/2018 11:20:22 PM	A51729
Ethylbenzene	ND	1.0		µg/L	1	6/4/2018 11:20:22 PM	A51729
Xylenes, Total	ND	1.5		µg/L	1	6/4/2018 11:20:22 PM	A51729
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	6/4/2018 11:20:22 PM	A51729
Surr: Toluene-d8	103	70-130		%Rec	1	6/4/2018 11:20:22 PM	A51729

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-17
Project: Lateral K-51
Collection Date: 5/31/2018 8:50:00 AM
Lab ID: 1806030-008
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/5/2018 1:40:39 PM	A51753
Toluene	ND	1.0		µg/L	1	6/5/2018 1:40:39 PM	A51753
Ethylbenzene	ND	1.0		µg/L	1	6/5/2018 1:40:39 PM	A51753
Xylenes, Total	ND	1.5		µg/L	1	6/5/2018 1:40:39 PM	A51753
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	6/5/2018 1:40:39 PM	A51753
Surr: Toluene-d8	106	70-130		%Rec	1	6/5/2018 1:40:39 PM	A51753

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-16
Project: Lateral K-51
Collection Date: 5/31/2018 9:20:00 AM
Lab ID: 1806030-009
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/5/2018 2:03:44 PM	A51753
Toluene	ND	1.0		µg/L	1	6/5/2018 2:03:44 PM	A51753
Ethylbenzene	ND	1.0		µg/L	1	6/5/2018 2:03:44 PM	A51753
Xylenes, Total	ND	1.5		µg/L	1	6/5/2018 2:03:44 PM	A51753
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	6/5/2018 2:03:44 PM	A51753
Surr: Toluene-d8	107	70-130		%Rec	1	6/5/2018 2:03:44 PM	A51753

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-14
Project: Lateral K-51
Collection Date: 5/31/2018 9:50:00 AM
Lab ID: 1806030-010
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/5/2018 2:26:51 PM	A51753
Toluene	ND	1.0		µg/L	1	6/5/2018 2:26:51 PM	A51753
Ethylbenzene	ND	1.0		µg/L	1	6/5/2018 2:26:51 PM	A51753
Xylenes, Total	ND	1.5		µg/L	1	6/5/2018 2:26:51 PM	A51753
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	1	6/5/2018 2:26:51 PM	A51753
Surr: Toluene-d8	105	70-130		%Rec	1	6/5/2018 2:26:51 PM	A51753

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-20
Project: Lateral K-51
Collection Date: 5/31/2018 10:40:00 AM
Lab ID: 1806030-011
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	6/5/2018 2:49:59 PM	A51753
Toluene	ND	1.0		µg/L	1	6/5/2018 2:49:59 PM	A51753
Ethylbenzene	ND	1.0		µg/L	1	6/5/2018 2:49:59 PM	A51753
Xylenes, Total	ND	1.5		µg/L	1	6/5/2018 2:49:59 PM	A51753
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	6/5/2018 2:49:59 PM	A51753
Surr: Toluene-d8	106	70-130		%Rec	1	6/5/2018 2:49:59 PM	A51753

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-19
Project: Lateral K-51
Collection Date: 5/31/2018 11:20:00 AM
Lab ID: 1806030-012
Matrix: AQUEOUS
Received Date: 6/1/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	250	10		µg/L	10	6/5/2018 12:31:24 PM	A51753
Toluene	ND	10		µg/L	10	6/5/2018 12:31:24 PM	A51753
Ethylbenzene	83	10		µg/L	10	6/5/2018 12:31:24 PM	A51753
Xylenes, Total	260	15		µg/L	10	6/5/2018 12:31:24 PM	A51753
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	10	6/5/2018 12:31:24 PM	A51753
Surr: Toluene-d8	106	70-130		%Rec	10	6/5/2018 12:31:24 PM	A51753

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806030**

06-Jun-18

Client: APEX TITAN

Project: Lateral K-51

Sample ID	**100ng btex lcs**	SampType:	**LCS4**		TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**BatchQC**	Batch ID:	**A51729**		RunNo:	**51729**				
Prep Date:		Analysis Date:	**6/4/2018**		SeqNo:	**1688629**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Xylenes, Total	62	1.5	60.00	0	103	80	120			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.6	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID	**1806030-001ams**	SampType:	**MS4**		TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**MW-11**	Batch ID:	**A51729**		RunNo:	**51729**				
Prep Date:		Analysis Date:	**6/4/2018**		SeqNo:	**1688632**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.3	80	120			
Toluene	21	1.0	20.00	0	103	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	62	1.5	60.00	0	103	80	120			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.3	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID	**1806030-001amsd**	SampType:	**MSD4**		TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**MW-11**	Batch ID:	**A51729**		RunNo:	**51729**				
Prep Date:		Analysis Date:	**6/4/2018**		SeqNo:	**1688633**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.7	80	120	1.66	20	
Toluene	20	1.0	20.00	0	98.8	80	120	3.71	20	
Ethylbenzene	20	1.0	20.00	0	99.6	80	120	3.01	20	
Xylenes, Total	63	1.5	60.00	0	105	80	120	1.87	20	
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130	0	0	
Surr: Toluene-d8	10		10.00		101	70	130	0	0	

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**PBW**	Batch ID:	**A51729**		RunNo:	**51729**				
Prep Date:		Analysis Date:	**6/4/2018**		SeqNo:	**1688637**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806030**

06-Jun-18

Client: APEX TITAN

Project: Lateral K-51

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **A51729**	RunNo: **51729**
Prep Date:	Analysis Date: **6/4/2018**	SeqNo: **1688637** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **100ng btex lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **A51753**	RunNo: **51753**
Prep Date:	Analysis Date: **6/5/2018**	SeqNo: **1689392** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	60	1.5	60.00	0	101	80	120			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **1806030-004ams**	SampType: **MS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-2**	Batch ID: **A51753**	RunNo: **51753**
Prep Date:	Analysis Date: **6/5/2018**	SeqNo: **1689394** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	80	120			
Toluene	21	1.0	20.00	0.09400	102	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	61	1.5	60.00	0.4876	102	80	120			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Toluene-d8	11		10.00		108	70	130			

Sample ID **1806030-004amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-2**	Batch ID: **A51753**	RunNo: **51753**
Prep Date:	Analysis Date: **6/5/2018**	SeqNo: **1689395** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	80	120	3.17	20	
Toluene	20	1.0	20.00	0.09400	99.4	80	120	2.94	20	
Ethylbenzene	20	1.0	20.00	0	102	80	120	2.24	20	
Xylenes, Total	60	1.5	60.00	0.4876	99.4	80	120	2.19	20	
Surr: 4-Bromofluorobenzene	9.6		10.00		96.3	70	130	0	0	
Surr: Toluene-d8	10		10.00		105	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806030**

06-Jun-18

Client: APEX TITAN

Project: Lateral K-51

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **A51753**	RunNo: **51753**
Prep Date:	Analysis Date: **6/5/2018**	SeqNo: **1689403** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: APEX AZTEC | Work Order Number: 1806030 | RcptNo: 1

Received By: **Anne Thorne** 6/1/2018 7:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 6/4/2018 7:28:01 AM Anne Thorne

Reviewed By: ENM 6/4/18

Labeled by: JB 06/04/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? 06/04/18

Checked by: JB

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

CUSTODY SEALS INTACT ON VOA VIALS/at 6/4/18

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location 606 S Rio Grande Suite A Aztec NM

Project Manager K Summers

Laboratory: Hall Environmental Lab

Address: 4901 Hawkins NE Albuquerque NM 87109

Contact: A. Freeman

Phone: 505-345-3975

PO/SO #:

Sampler's Name: Chad D'Agosta

Sampler's Signature:

Proj. No.: 125a0101122227

Project Name: Lateral K-51

No/Type of Containers

ANALYSIS REQUESTED: BTEX 8021

Lab use only
Due Date:

Temp. of coolers when received (C°): 1.3

1	2	3	4	5

Page 1 of 2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
W	5/30/18	950			MW-11			3					1806030-001
W	5/30/18	1020			MW-12			3					-002
W	5/30/18	1050			MW-4			3					-003
W	5/30/18	1120			MW-2			3					-004
W	5/30/18	1150			MW-3			3					-005
W	5/30/18	1220			MW-1			3					-006
W	5/30/18	1320			MW-13			3					-007

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	5-31-18	1528		5/31/18	1528
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	5/31/18	1807		06/01/18	0700
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES: Bill to Apex (Corp Rate)

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil

Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other _____

CHAIN OF CUSTODY RECORD

APEX

Office Location: Los Rio Grande Suit A Aztec nm

Project Manager: K Summers

Laboratory: Hall Environmental Lab

Address: 4901 Hawkins NE Albuquerque Nm 87109

Contact: A. Freeman

Phone: 505-345-3975

PO/SO #:

Sampler's Name:

Sampler's Signature:

Proj. No.: 725040102227

Project Name: Lateral K-51

ANALYSIS REQUESTED: BTEX 8021

Lab use only
Due Date:

Temp. of coolers when received (C°): 1.3

1	2	3	4	5

Page 2 of 2

Lab Sample ID (Lab Use Only): A+061019

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 Lt.	250 ml	Glass Jar	P/O	Lab Sample ID
w	5/31/18	850			mw-17			3					1806030-008
w	5/31/18	930			mw-16			3					-009
w	5/31/18	950			mw-14			3					-010
w	5/31/18	1040			mw-20			3					-011
w	5/31/18	1120			mw-19			3					-012

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	5-31-18	1525		5/31/18	1528
	5/31/18	1807		06/01/18	0700

NOTES: 3.11 to Apex (Cost Rate)

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil

Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 12, 2018

Kyle Summers
APEX TITAN
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX

RE: Lateral K 51 OrderNo.: 1811161

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 12 sample(s) on 11/3/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1811161**
Date Reported: **11/12/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-14
Project: Lateral K 51
Collection Date: 11/1/2018 10:00:00 AM
Lab ID: 1811161-001
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/6/2018 6:18:55 PM	C55454
Toluene	ND	1.0		µg/L	1	11/6/2018 6:18:55 PM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/6/2018 6:18:55 PM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/6/2018 6:18:55 PM	C55454
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	1	11/6/2018 6:18:55 PM	C55454
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	11/6/2018 6:18:55 PM	C55454
Surr: Dibromofluoromethane	94.4	70-130		%Rec	1	11/6/2018 6:18:55 PM	C55454
Surr: Toluene-d8	105	70-130		%Rec	1	11/6/2018 6:18:55 PM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-11
Project: Lateral K 51
Collection Date: 11/1/2018 10:50:00 AM
Lab ID: 1811161-002
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/6/2018 7:44:36 PM	C55454
Toluene	ND	1.0		µg/L	1	11/6/2018 7:44:36 PM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/6/2018 7:44:36 PM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/6/2018 7:44:36 PM	C55454
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%Rec	1	11/6/2018 7:44:36 PM	C55454
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	11/6/2018 7:44:36 PM	C55454
Surr: Dibromofluoromethane	97.1	70-130		%Rec	1	11/6/2018 7:44:36 PM	C55454
Surr: Toluene-d8	103	70-130		%Rec	1	11/6/2018 7:44:36 PM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-4
Project: Lateral K 51
Collection Date: 11/1/2018 11:30:00 AM
Lab ID: 1811161-003
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/6/2018 8:13:21 PM	C55454
Toluene	ND	1.0		µg/L	1	11/6/2018 8:13:21 PM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/6/2018 8:13:21 PM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/6/2018 8:13:21 PM	C55454
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%Rec	1	11/6/2018 8:13:21 PM	C55454
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	11/6/2018 8:13:21 PM	C55454
Surr: Dibromofluoromethane	94.6	70-130		%Rec	1	11/6/2018 8:13:21 PM	C55454
Surr: Toluene-d8	101	70-130		%Rec	1	11/6/2018 8:13:21 PM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-12
Project: Lateral K 51
Collection Date: 11/1/2018 12:10:00 PM
Lab ID: 1811161-004
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/7/2018 2:26:34 PM	R55466
Toluene	ND	1.0		µg/L	1	11/7/2018 2:26:34 PM	R55466
Ethylbenzene	ND	1.0		µg/L	1	11/7/2018 2:26:34 PM	R55466
Xylenes, Total	ND	1.5		µg/L	1	11/7/2018 2:26:34 PM	R55466
Surr: 1,2-Dichloroethane-d4	92.0	70-130		%Rec	1	11/7/2018 2:26:34 PM	R55466
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	11/7/2018 2:26:34 PM	R55466
Surr: Dibromofluoromethane	93.4	70-130		%Rec	1	11/7/2018 2:26:34 PM	R55466
Surr: Toluene-d8	101	70-130		%Rec	1	11/7/2018 2:26:34 PM	R55466

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-2
Project: Lateral K 51
Collection Date: 11/1/2018 12:55:00 PM
Lab ID: 1811161-005
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/6/2018 11:05:01 PM	C55454
Toluene	ND	1.0		µg/L	1	11/6/2018 11:05:01 PM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/6/2018 11:05:01 PM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/6/2018 11:05:01 PM	C55454
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	11/6/2018 11:05:01 PM	C55454
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	11/6/2018 11:05:01 PM	C55454
Surr: Dibromofluoromethane	91.4	70-130		%Rec	1	11/6/2018 11:05:01 PM	C55454
Surr: Toluene-d8	103	70-130		%Rec	1	11/6/2018 11:05:01 PM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-3
Project: Lateral K 51
Collection Date: 11/1/2018 1:35:00 PM
Lab ID: 1811161-006
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/6/2018 11:33:40 PM	C55454
Toluene	ND	1.0		µg/L	1	11/6/2018 11:33:40 PM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/6/2018 11:33:40 PM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/6/2018 11:33:40 PM	C55454
Surr: 1,2-Dichloroethane-d4	96.8	70-130		%Rec	1	11/6/2018 11:33:40 PM	C55454
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	11/6/2018 11:33:40 PM	C55454
Surr: Dibromofluoromethane	95.3	70-130		%Rec	1	11/6/2018 11:33:40 PM	C55454
Surr: Toluene-d8	104	70-130		%Rec	1	11/6/2018 11:33:40 PM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-13
Project: Lateral K 51
Collection Date: 11/1/2018 2:10:00 PM
Lab ID: 1811161-007
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/7/2018 12:02:21 AM	C55454
Toluene	ND	1.0		µg/L	1	11/7/2018 12:02:21 AM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/7/2018 12:02:21 AM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/7/2018 12:02:21 AM	C55454
Surr: 1,2-Dichloroethane-d4	98.6	70-130		%Rec	1	11/7/2018 12:02:21 AM	C55454
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	11/7/2018 12:02:21 AM	C55454
Surr: Dibromofluoromethane	95.8	70-130		%Rec	1	11/7/2018 12:02:21 AM	C55454
Surr: Toluene-d8	106	70-130		%Rec	1	11/7/2018 12:02:21 AM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-17
Project: Lateral K 51
Collection Date: 11/1/2018 2:55:00 PM
Lab ID: 1811161-008
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/7/2018 12:30:56 AM	C55454
Toluene	ND	1.0		µg/L	1	11/7/2018 12:30:56 AM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/7/2018 12:30:56 AM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/7/2018 12:30:56 AM	C55454
Surr: 1,2-Dichloroethane-d4	94.4	70-130		%Rec	1	11/7/2018 12:30:56 AM	C55454
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	11/7/2018 12:30:56 AM	C55454
Surr: Dibromofluoromethane	94.5	70-130		%Rec	1	11/7/2018 12:30:56 AM	C55454
Surr: Toluene-d8	102	70-130		%Rec	1	11/7/2018 12:30:56 AM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-20
Project: Lateral K 51
Collection Date: 11/2/2018 9:15:00 AM
Lab ID: 1811161-009
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/7/2018 12:59:34 AM	C55454
Toluene	ND	1.0		µg/L	1	11/7/2018 12:59:34 AM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/7/2018 12:59:34 AM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/7/2018 12:59:34 AM	C55454
Surr: 1,2-Dichloroethane-d4	94.0	70-130		%Rec	1	11/7/2018 12:59:34 AM	C55454
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	11/7/2018 12:59:34 AM	C55454
Surr: Dibromofluoromethane	95.3	70-130		%Rec	1	11/7/2018 12:59:34 AM	C55454
Surr: Toluene-d8	105	70-130		%Rec	1	11/7/2018 12:59:34 AM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-16
Project: Lateral K 51
Collection Date: 11/2/2018 10:05:00 AM
Lab ID: 1811161-010
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	11/7/2018 1:28:13 AM	C55454
Toluene	ND	1.0		µg/L	1	11/7/2018 1:28:13 AM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/7/2018 1:28:13 AM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/7/2018 1:28:13 AM	C55454
Surr: 1,2-Dichloroethane-d4	92.2	70-130		%Rec	1	11/7/2018 1:28:13 AM	C55454
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	11/7/2018 1:28:13 AM	C55454
Surr: Dibromofluoromethane	94.3	70-130		%Rec	1	11/7/2018 1:28:13 AM	C55454
Surr: Toluene-d8	105	70-130		%Rec	1	11/7/2018 1:28:13 AM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-1
Project: Lateral K 51
Collection Date: 11/2/2018 10:50:00 AM
Lab ID: 1811161-011
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	1.2	1.0		µg/L	1	11/7/2018 1:56:50 AM	C55454
Toluene	ND	1.0		µg/L	1	11/7/2018 1:56:50 AM	C55454
Ethylbenzene	ND	1.0		µg/L	1	11/7/2018 1:56:50 AM	C55454
Xylenes, Total	ND	1.5		µg/L	1	11/7/2018 1:56:50 AM	C55454
Surr: 1,2-Dichloroethane-d4	94.4	70-130		%Rec	1	11/7/2018 1:56:50 AM	C55454
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	11/7/2018 1:56:50 AM	C55454
Surr: Dibromofluoromethane	92.3	70-130		%Rec	1	11/7/2018 1:56:50 AM	C55454
Surr: Toluene-d8	105	70-130		%Rec	1	11/7/2018 1:56:50 AM	C55454

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Client Sample ID: MW-19
Project: Lateral K 51
Collection Date: 11/2/2018 11:30:00 AM
Lab ID: 1811161-012
Matrix: AQUEOUS
Received Date: 11/3/2018 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	230	5.0		µg/L	5	11/7/2018 3:52:18 PM	R55466
Toluene	ND	5.0		µg/L	5	11/7/2018 3:52:18 PM	R55466
Ethylbenzene	62	5.0		µg/L	5	11/7/2018 3:52:18 PM	R55466
Xylenes, Total	280	7.5		µg/L	5	11/7/2018 3:52:18 PM	R55466
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%Rec	5	11/7/2018 3:52:18 PM	R55466
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	5	11/7/2018 3:52:18 PM	R55466
Surr: Dibromofluoromethane	99.6	70-130		%Rec	5	11/7/2018 3:52:18 PM	R55466
Surr: Toluene-d8	105	70-130		%Rec	5	11/7/2018 3:52:18 PM	R55466

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811161**

12-Nov-18

Client: APEX TITAN

Project: Lateral K 51

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **C55454**	RunNo: **55454**
Prep Date:	Analysis Date: **11/6/2018**	SeqNo: **1846066** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		99.9	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **C55454**	RunNo: **55454**
Prep Date:	Analysis Date: **11/6/2018**	SeqNo: **1846726** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		109	70	130			
Surr: Dibromofluoromethane	9.3		10.00		93.3	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R55466**	RunNo: **55466**
Prep Date:	Analysis Date: **11/7/2018**	SeqNo: **1847946** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.0	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **1811161-012ams**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-19**	Batch ID: **R55466**	RunNo: **55466**
Prep Date:	Analysis Date: **11/7/2018**	SeqNo: **1847949** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	320	5.0	100.0	229.6	94.6	60.5	137			
Toluene	100	5.0	100.0	0	105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811161**

12-Nov-18

Client: APEX TITAN

Project: Lateral K 51

Sample ID **1811161-012ams**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-19**	Batch ID: **R55466**	RunNo: **55466**
Prep Date:	Analysis Date: **11/7/2018**	SeqNo: **1847949** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	47		50.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	51		50.00		102	70	130			
Surr: Dibromofluoromethane	48		50.00		96.4	70	130			
Surr: Toluene-d8	51		50.00		102	70	130			

Sample ID **1811161-012amsd**	SampType: **MSD**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-19**	Batch ID: **R55466**	RunNo: **55466**
Prep Date:	Analysis Date: **11/7/2018**	SeqNo: **1847950** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	310	5.0	100.0	229.6	81.4	60.5	137	4.15	20	
Toluene	99	5.0	100.0	0	98.8	70	130	5.62	20	
Surr: 1,2-Dichloroethane-d4	47		50.00		93.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	53		50.00		106	70	130	0	0	
Surr: Dibromofluoromethane	48		50.00		95.7	70	130	0	0	
Surr: Toluene-d8	51		50.00		102	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R55466**	RunNo: **55466**
Prep Date:	Analysis Date: **11/7/2018**	SeqNo: **1847958** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.7	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **1811161-001ams**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-14**	Batch ID: **C55454**	RunNo: **55556**
Prep Date:	Analysis Date: **11/9/2018**	SeqNo: **1850645** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.8	60.5	137			
Toluene	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.5	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1811161**

12-Nov-18

Client: APEX TITAN

Project: Lateral K 51

Sample ID	**1811161-001ams**	SampType:	**MS**		TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**MW-14**	Batch ID:	**C55454**		RunNo:	**55556**				
Prep Date:		Analysis Date:	**11/9/2018**		SeqNo:	**1850645**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	9.7		10.00		96.8	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID	**1811161-001amsd**	SampType:	**MSD**		TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**MW-14**	Batch ID:	**C55454**		RunNo:	**55556**				
Prep Date:		Analysis Date:	**11/9/2018**		SeqNo:	**1850646**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	86.8	60.5	137	7.81	20	
Toluene	19	1.0	20.00	0	95.2	70	130	8.01	20	
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130	0	0	
Surr: Dibromofluoromethane	9.6		10.00		96.3	70	130	0	0	
Surr: Toluene-d8	10		10.00		104	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **APEX AZTEC** Work Order Number: **1811161** RcptNo: **1**

Received By: **Ashley Gallegos** **11/3/2018 9:45:00 AM**

Completed By: **Ashley Gallegos** **11/5/2018 10:15:46 AM**

Reviewed By: VV2 11/5/18

labeled by: DAD 11/05/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 11/05/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			

CHAIN OF CUSTODY RECORD

APEX

Office Location
1006 S Rio Grande Suite A
Aztec, NM 87410

Project Manager K. Summers

Laboratory: Hall Environmental Analysis Laboratory
Address: 4901 Hawkins NE
Albuquerque, NM 87109
Contact: A. Freeman
Phone: 505-345-3975
PO/SO #: 725040112227

Lab use only
Due Date:
Temp. of coolers when received (C°): 1.8-0.4(C) 1.4
1 | 2 | 3 | 4 | 5
Page 1 of 2

Sampler's Name: Ranee Deechilly
Sampler's Signature:

Proj. No.: 725040112227
Project Name: Lateral KS1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 Lt.	250 ml	Glass Jar	P/O	ANALYSIS REQUESTED: BTEX 8021	Lab Sample ID (Lab Use Only)
W	11/1/18	1000			MW-14			3					X	1811101-001
W	11/1/18	1050			MW-11			3					X	-002
W	11/1/18	1130			MW-4			3					X	-003
W	11/1/18	1210			MW-12			3					X	-004
W	11/1/18	1255			MW-2			3					X	-005
W	11/1/18	1335			MW-3			3					X	-006
W	11/1/18	1410			MW-13			3					X	-007
W	11/1/18	1455			MW-17			3					X	-008
W	11/2/18	915			MW-20			3					X	-009
W	11/2/18	1005			MW-16			3					X	-010

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	11/2/18	1449		11/2/18	1449
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	11/2/18	1815		11/03/18	0945
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:
Bill to APEX (corporate rate)

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

CHAIN OF CUSTODY RECORD

APEX

Office Location
606 S Rio Grande Suite A
Aztec, NM 87410

Project Manager R Summers

Laboratory: Hall Environmental Analysis Laboratory
Address: 4901 Hawkins NE
Albuquerque, NM 87109
Contact: A. Freeman
Phone: 505-345-3975
PO/SO #: 725040112227

Sampler's Name: Ranee Deechilly
Sampler's Signature:

Proj. No.: 725040112227
Project Name: Lateral K-51

Lab use only
Due Date:
Temp. of coolers when received (C°): 1.8-0.4=CF 1.4
1 | 2 | 3 | 4 | 5
Page 2 of 2

ANALYSIS REQUESTED: BTEX 8021

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No/Type of Containers: VOA	A/G 1 Lt.	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
W	11/2/18	1050			MW-1			3					1811L01-011
W	11/2/18	1130			MW-19			3					012
					NFS								

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11/2/18	1449		11/2/18	1449
	11/2/18	1818		11/03/18	0945

NOTES: Bill to Apex (corporate rate)

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other